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MEDICO-SURGICAL SUGGESTIONS

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Original Articles.

"MODERN TREATMENT OF SEPTICEMIA"

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DEFINITION:

Septicemia is a fever used to describe the invasion of the blood and the tissues by morbid bacteria and their toxins. The invasion may be through an open wound or through some concealed focus.

FORMS:

Septicemia may be divided into two forms:—

i. Septicemia from local infection.

ii. Septicemia from any recognisable local infection.

1. SEPTICEMIA FROM LOCAL INFECTION:

The organisms concerned are Streptococcus and Staphylococcus. The incubation period is a few hours only; the symptoms set in usually within twenty four hours and rarely after three or four days.

SYMPTOMS:

There is nausea and vomiting, restlessness and chill or rigor which may be repeated. The temperature rises which is moderate at first but later on it goes high up reaching 105°F. But in grave cases it is low and sometimes subnormal. The pulse is rapid. There is daily remission and sometimes even intermission. Thirst is sometimes persistent.

Digestive System:—Gastro-intestinal disturbances are common. Diarrhoea may set in or constipation may be present. Tongue is red at the margin but dark at the back. Spleen is slightly enlarged. Slight jaundice is sometimes present.

Heart and Blood:—Anaemia is common and leucocytosis often occurs. There is usually haemorrhage from serous surfaces.

Nervous system:—There is complete mental apathy. There may be early delirium but in streptococci infection it is usually absent.

Respiratory System:—Respiration is shallow and laboured. In Staphylococcus infection pleura may be affected in later stages.

Urinary System:—Urine is small in amount and highly loaded with urates.

11. SEPTICEMIA WITHOUT ANY RECOGNISABLE LOCAL INFECTION :

Again in this form also Streptococcus infection is the most common. Staphylococcus infection is rare. This form of Septicemia usually occurs in persons whose vitality has been lowered by some other diseases although perfectly healthy persons are not immune.

SYMPTOMS :

The symptoms are usually as in the first form. When the fever which is invariably present can not be accounted for and Malaria, Tuberculosis, Kala-azar and such other fevers are excluded it gives rise to suspicion of its being due to Septicemia. Bacteriological examination will only finally settle the diagnosis.

TREATMENT :

General diet must be nourishing, soft and liquid. Frequent small meals are best. Milk, eggs, cereal, meat juices and broths are good. Brandy, whisky or Champagne about an ounce may be given, most liberally rather should be forced every two hours—two gallons per day. Bowels should be kept clear by simple laxative. Fresh air is essential.

Surgical :—The primary focus if found should be opened and a thorough drainage ensured.

Specific Therapy :—Vaccines and Serums. Autogenous Vaccines are the best but stock vaccines may also advantageously be used. Antistreptococcus serum 30 c.c. twice daily should be given till the symptoms subside. It is advisable that the first dose in 20 c. c. only and is given cautiously.

Drugs :

(i) Intravenous injection of perchloride of mercury and mercurochrome gr. ½ to gr. 1 in 10 c.c. of distilled water twice a week is effective.

(ii) Intravenous injection of Acriflavine 5 c.c. to 10 c.c. of ½ p. c. to 1 p c. solution can be tried.

(iii) Septicemine—Intramuscularly.

(iv) Iodasaptine ampoules.

(v) Milk—5 c.c. to 10 c.c. intramuscularly, twice a week may be tried.

(vi) Saline intravenously or subcutaneously according to the requirements of the case.

(vii) 5 c.c. of 3 p c. collargol intravenously upto 5 or 6 days.

(viii) Grains 20 to 200 c c. of sterile Mag-Sulph solution intramuscularly may also be tried.

By Mouth :

The following mixtures may be given by mouth :—

1. R—.

Quinine Sulph	gr. v.
Tr. Ferri Perchlor	m xx
Spt. Chloroform	m xv
Aqua	ad oz 1

mft. mist—for one dose—to be given thrice daily.

2. R —.

Tr. Ferri Perchlor	m xx
Sodi Salicylas	gr. x
Pot. bicarb	gr. x
Cascara evacuant	m xv
Glycerine	drachm p
Aqua	ad oz 1

mft. mist—for one dose.

Sig : To be given thrice daily.

SYMPTOMATIC TREATMENT :

(1) *Fever* :—Fever is most safely treated by hydrotherapy. As soon as the temperature reaches 103°F. tepid or cold sponge should be given.

(2) *Sleeplessness* :—This again may yield to hydrotherapy. Bromides may be given if necessary.

(3) *Vomiting* :—Milk, when given should be diluted with lime water or coffee. Tincture Iodine in drop dosage will prove efficacious. Bromides may also be prescribed.

(4) *Abdominal Distention* :—Should be dealt with turpentine enema.

(5) *Delirium* :—Ice bag and Bromides etc.

(6) *Depressed cardiac or respiratory function*:—For this camphor in oil with ether is the best and should be given every four hours. Intravenous administration of a pint of normal saline with a few drops of adrenaline is also advantageously advocated.

WHEN TO SUSPECT PULMONARY TUBERCULOSIS.

BY DR. P. KRISHNASWAMI.

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Osler said that one half of the diagnosis of tuberculosis is to know when to suspect it. In every individual who presents himself with symptoms referable to the thorax the possibility of the trouble being due to tuberculosis must always be considered, no matter whether the affection is acute or chronic. No examiner is infallible. Errors in diagnosis will occur unless suspicious cases are kept under observation for some time but there are many cases where close attention to details of history and a careful physical examination will lead to an early diagnosis of the disease.

The following factors are of importance in determining the presence of the disease :—

The prolonged and intimate contact with a person actually tuberculous particularly when the patient's immediate relatives such as brothers, sisters or parents are or have been suffering from active tuberculosis unlesss massive infection has taken place, it requires other factors to develop active disease, the principal ones being lowered resistence due to intercurrent respiratory infections, overwork, dissipation, over crowding and insanitary methods of living.

(*a*) IMPORTANCE OF SYMPTOMATOLGOY. Active phthisis may exist without physical signs but there is no active phthisis without constitutional symptoms. These symptoms often preceed the appearance of definite physical signs and may often be present before X-Ray will present any evidence of disease. The onset of tuberculosis is usually insiduous and there is no single symptom which is pathognomonic. Occasionally there is a danger signal in the shape of a single symptom or condition such as haemoptysis or pleurisy with effusion, a fistula in ano. or persistant attack of hoarseness. In these instances it is best to diagnose tuberculosis and let time disprove it rather than to attribute them to other causes and lose valuable time in making a correct diagnosis. The significance of these symptoms is constantly over looked and exemplify what Osler ment when he said half the diagnosis is to know when to suspect it. Suspect also every adult or child who is subject to frequent and repeated colds.

(*b*) Temperature is one of the first symptoms of active pulmonary tuberculosis. Tuberculosis may progress in the absence of fever but the great majority of patients will present this symptom if carefully looked for. Faulty technique and defective thermometers are possible for the majority of so called apyretic cases. In taking temperature with a one minute thermometers it should be left in the mouth for five minutes in summer and ten minutes in winter since it often takes this length of time for the mercury to reach its highest point. The temperature by mouth should not be taken immediately after meals, after taking hot or cold drinks, after washing the mouth or immediately after the patient has come indoors in cold weather. An occasional temperature of 99 degrees F. should not be considered as fever but one which reads 99·2 degrees F. to 99·4 degrees F. at some portion of the day when the temperature is taken at least three times a day is significant. The temperature in tuberculosis usually occurs in the afternoon or in the evening and is often subnormal in the morning.

(c) Night sweats are present in about thirty seven per cent of early cases and are more characteristic of the moderately advanced stages. They occur typically during the early morning hours and

are drenching in character. Slight or localised sweating or perspiration following the use of diaphortics should not be considered as night sweats.

(*d*) *Haemoptysis.* About ten percent of incipient cases are ushered in by haemoptysis. Blood streaks in sputum may or may not mean tuberculosis but a haemorrhage of one or two drachms of blood is presumptive evidence of the disease. There are many cases of haemorrhage of the lung such as bronchiectasis, mitral stenosis, varicosites etc. but the great majority are due to tuberculosis and tuberculosis should be diagnosed until the contrary is proved. The injunction of Cabol is worth remembering "I do not deny that the causes of haemoptysis are numerous but I assert that the causes of geniuinely obscure haemoptysis may be deduced to one –Pulmonary Tuberculosis."

(*e*) *Loss of weight.* A gradual and progressive loss of weight is characteristic of the disease. But loss of weight should be understood and explained loss atleast five per cent below normal limits for the individual. The loss of weight is always governed by severity of the disease.

(*f*) *Malaise.* Also characteristic of loss of strength exhibited as undue fatigue and a lack of staying power which is unusual for the individual. Very often the patient feels well in the morning but develops malaise immediately after mid-day meal, feeling normal again in the evening. This sense of weariness is often independant of any exertion whatsoever and very often is the only symptom complained of for months.

(*g*) Chills and chilly sensations frequently occur as in early manifestations and are usually associated with fever and sweats.

(*h*) *Chest pains.* Many patients in the course of phthisis have no pains whatever. The initial pain is usually felt in the infraclavicular space above the second rib or more often in the interscapular space on the affected side. Especially frequent and interesting is pain in the shoulder of the affected side due to apical pleurisy and which is aggravated by changes of weather. A very frequent error is to attribute this pain to rheumatism when in reality it is due to tuberculosis. In every such case make a careful examination of the lungs.

(*i*) Hoarseness may be the first intimation of pulmonary tuberculosis. It may be persistant but more often transient. Any hoarseness or persistant hissings requires careful investigation of the lungs.

(*j*) Indigestion is very frequent in early tuberculosis. All consumptives have been or will become dyspeptics. Many patients have been treated for indigestion for one or two years before the true nature of the process was discovered. Since the prognosis directly depends upon the condition of the gastro-intestinal tract it is very

important that the nature of the disease should be early recognised in order that proper treatment should be instituted. The anorexia of phthisis is due to toxaemia and no relation to temperature as in most diseases. In all casses of persistant indigestion especially in the young, make a careful examination of the lung.

(*k*) *Cardio-vascular symptoms.* The most important of these are tachycardia and hypotension. Acceleration of the pulse is a frequent manifestation of tuberculosis and in early cases it may appear before fever, so is of diagnostic importance. The frequency increases with advancing disease. An average pulse of 85 or over in men and 90 or over in women is abnormal and is often found in early tuberculosis. A low blood pressure is present in the very early stages of phthisis and if it occurs in adult, tuberculosis is to be suspected.

(*l*) Ammenorrhoea is very frequent during the course of the disease and should cause suspicion, if pregnancy is ruled out. After influenza, pneumonia etc. we often find that menstrual function has not been re-established and the answer is usually a developing tuberculosis.

(*m*) Dyspnoea is often present in incipient disease and strangely enough bears no relation to the amount of involvement.

(*n*) Pleurisy with effusion is practically always due to tuberculosis. A pleural effusion with insiduous onset is almost certainly tuberculosis.

(*o*) Ischio-rectal abscess and fistula in ano, they call for examination of the lungs.

Careful attention to the facts outlined above will usually enable one to make a diagnosis of probable tuberculosis which can further be substantiated by physical and sputum examination and X-Ray.

One thorn of experience is worth a whole wilderness of warning. LOWELL.

Modern Methods of Treatment.

*THERAPY OF COUGHS.

The "Loose" Cough.—As soon as the cough has "loosened up," most of the treatment previously described should be abandoned. Such a patient is now usually well on the road to recovery, and may need nothing further. If, however, the loose cough is troublesome, if there seems to be too much expectoration and the cough shows a tendency to "hang on," the following items of treatment may be brought into requisition: "stimulant" expectorant, volatile oil vapour inhalation, and "reactive" chest applications: the bronchitis therapeutic triad of attack from within, from without and through the air, which may succeed when any one of these alone may fail.

"Stimulant" expectorants are aromatic bodies that owe their virtue to elimination from the bronchial mucous membrane. Given in sufficient dosage, they possibly tend to favour healing by producing a curative hyperemia. They must not be given early in a case of acute bronchitis, as they may cause recurrence of the sense of soreness in the chest and of the difficulty of expectoration.

Creosote carbonate (prescription 7) has been given in ascending dosage, though the usefulness of these preparations given orally is being questioned. As it is also antipyretic, it might be used in constant dosage of from 0.5 to 1 cc. every two to four hours, should such an effect be desired when there is also fever. It is best given suspended in a tablespoonful of hot milk. and

PRESCRIPTION 7.—*Creosote Carbonate.*

R Creosote carbonate ... 30.00 cc.

Label: Five drops in tablespoonful of hot milk (followed by glassful of milk) three times daily after meals. Increase dose by one drop daily up to thirty drops three times daily (in "loose" cough). this followed by a cupful of milk. When it is used for a long time as in cases of tuberculosis, it is necessary to watch not only for symptoms of gastric intolerance and dizziness but also most especially for discolouration of urine or albuminuria. It is contraindicated by the presence of nephritis. From time to time its use should be intermitted, to be resumed as required; for, when used in large quantities for a long time, it may rob the body of sulphur through its conjugation in the process of elimination.

Terpin hydrate, given in 0.3 Gm. capsules three or six times daily, has the advantage of potability. The elixir of terpin hydrate is not an eligible preparation, as it does not contain enough terpin

* Continued from September issue of the Journal.

hydrate (only 0.07 Gm. per teaspoonful) to be of much value in such cases.

Inhalations of vapour of volatile oils may, by their irritative effect on the bronchial mucous membrane, stimulate healing by increasing the rapidity of cell division and the accumulation of blood in the part, in a manner analogous to that by which tar favours the healing of subacute or chronic skin disease. The diminution and ultimate cessation of secretion expected from such treatment may be the result of an actual hastening of the healing process. If this should be the case, the strength of the irritation must be carefully gaged in accordance with the irritability of the membrane. Certain it is that, employed too soon, too strong or too long, such inhalation may make matters worse. Creosote might be chosen as a typical representative of aromatic inhalants, though eucalyptol or terebene might be thought of as succedanea.

The inhalation of the agent by direct heating, as when one pours a teaspoonful of creosote in an earthenware dish placed over a source of heat, releases a vapour so irritative that the eyes must be protected by watch-glass goggles applied with adhesive plaster, and the nostrils stopped with cotton. Inhalation of such vapour causes violent coughing, which may help in the emptying of the bronchial cavities; and, if such inhalation should be continued after the emptying of the cavity, it may exert on its lining an effect that might stimulate healing as well as possibly diminish the foulness of the secretion for some time afterward. In such cases, if the patient can tolerate it, the inhalation might be continued for from one-fourth to one-half hour.

The inhalation is milder if one places a teaspoonful to a tablespoonful of the volatile agent in a half pitcherful of hot water. The most convenient and at the same time the mildest method of using these agents is to drop the volatile material on an inhalation mask, such as a chloroform inhaler. For initial strength, one might dilute the creosote with alcohol, and possibly add chloroform, which makes the inhalation more pleasant (prescription 8). It might be kept up for hours or be intermitted from time to time, as the effects and the patient's tolerance dictate. Continuous inhalation, day and night, no doubt gives the maximum effect.

"Reactive" chest applications may be useful. The chest compress, with its power to excite deep respirations and to produce an ebb and flow of blood not only on the skin but probably also in the

PRESCRIPTION 8.—*Creosote-Chloroform Inhalant.*

R Creosote
Chloroform
Alcohol ... ... of each 20.00 cc.

M. Label: From fifteen to thirty drops on inhaler (in "loose" cough.)

bronchial mucosa, is a measure that should be resorted to more frequently in cases of subacute and choronic bronchitis. In a bed patient it may be applied every two or three hours. The ambulatory patient applies it at bedtime, to leave it on over night. On removing it in the morning, he dashes cold water on the chest and follows this with a brisk rubbing.

One requires for this compress a strip of one or more folds of linen about 10 inches wide and 3 yards long, and a strip of flannel of the same length and about 1 inch wider. The rolled up linen bandage is well wrung out of water at 60° F. This compress is also known as the "cross binder," because it forms a cross on the front and the back of the chest, being applied in a diagonal manner from axilla to shoulder. Starting in one axilla, one brings it over the opposite shoulder and then back to the starting point. Next it is drawn transversely across the chest under the opposite axilla, and across the back over the shoulder of the side one had started on. The end is then tucked in, in front, under the transverse course of the bandage. The flannel is applied in the same manner and quite snugly. Usually three safety pins—one in the midline at the neck and one at each shoulder—suffice to complete good covering, so as to keep "the air from getting at the wet." When the compress is well applied and the patient reacts to it properly, he should, within a few minutes, feel warm and comfortable in it.

THE "INSUFFICIENT" COUGH

The "insufficient" cough is a condition in which the amount of bronchial secretion exceeds the coughing powers so that slime accumulates in the chest. Exhaustion produces this condition; so may the unwise administration of narcotics. Carbon dioxide narcosis may become superadded, with an inevitably fatal outcome, unless the insufficiency of the cough is antagonized by heroic means.

When the presence of numerous moist rales all over the chest and other evidence, such as cyanosis, point to the danger of the patient drowning in his own secretions or to the likelihood of the development of bronchopneumonia following obstruction of bronchioles, all liquefying expectorants are contraindicated and checking the cough by opiates or other sedatives is disastrous. It is necessary in such conditions to increase the act of coughing so as to favour clearing the chest by expectoration. This may be done by the following means:—

1. Irritation of the pharynx. (*a*) Benzoic acid, from 0.10 to 0.20 Gm. in powder (prescription 9) or as a lozenge, given at two

PRESCRIPTION 9.—*Benzoic Acid Powder.*

R Benzoic acid ... ... 1.50 Gm.
Oil sugar of lemon ... 10,00 Gm.

M. and divide into fifteen powder papers: Label: One every two hours (for insufficient cough).

hour intervals, produces a "scratchy" feeling in the throat that results in coughing.

(*b*) Senega and other saponin containing drugs have a similar action. This may make the fluid extract of senega (prescription 10)

PRESCRIPTION 10.—*Benzoic Acid and Senega.*

R	Benzoic acid ...	...	1.50 Gm.
	Fluid extract of Senega	...	15.00 cc.
	Iso-alcoholic elixir	...	to make 60.00 cc.

M. Label: Teaspoonful in water every two hours (for insufficient cough).

a good addition to the benzoic acid prescription for adults, and the syrup of senega the preferred vehicle of sodium benzoate for children (prescription 11).

PRESCRIPTION 11.—*Sodium Benzoic and Senega, for Child 5 Years of Age.*

R	Sodium benzoate	...	0 50 Gm.
	Syrup of Senega	...	to make 60.00 cc.

M. Label: Teaspoonful in a little water every two hours (for insufficient cough).

(*c*) Ammonium carbonate should most especially be thought of as an agent that may favour expectoration by irritation of the throat, while also acting as a circulation and respiration stimulant, effects particularly required in the treatment of bronchitis and bronchopneumonia of babies and young children. It is probably best prescribed in syrup of acacia (prescription 12.)

PRESCRIPTION 12.—*Ammonium Carbonate for Child 3 or 4 years of Age.*

R	Ammonium carbonate	...	2.00 Gm.
	Anise water ...	...	10.00 cc.
	Syrup of Acacia	...	to make 60,00. cc.

M. Label: Teaspoonful in water every two hours (for insufficient cough and collapse.)

2. Increasing the depth of respiration. (*a*) Patients with insufficient cough must be urged to breathe deeply and to cough and expectorate as much as possible. When a patient with greatly insufficient cough, who is in danger of drowning in his own secretions, begs for something to stop the cough, and to help him to sleep, this request must be denied, for the good sleep that he craves may be his final sleep. Such a patient should be told that he must cough to live, that his chief business is to cough, and to sleep by taking snatches of sleep in between coughing spells.

((*b*) Inhalation of oxygen with 5 per cent. carbon dioxide, may act as the powerful stimulus to the respiratory centre required to provoke respirations sufficiently deep to get beyond the accumulating secretion.

(*c*) When psychotherapy is unavailing, because of the patient's inability to co-operate, and when carbon dioxide-oxiygen is not available, a dash of cold water applied to the chest or even merely to the nape of the neck is a most powerful stimulus to deep respirations. The result is best secured by alternate hot and cold affusions to the chest. One starts with a pouring of hot water (110 F.) until the skin reddens, and follows this immediately with a sudden dash of cold water (60 F.) and brisk rubbing. These alternations should be continued until the desired effect is obtained. One must be careful to avoid exhausting a much enfeebled patient. In a child or a infant, immersion of the body in a hot mustard bath may be emplyed instead of the hot affusions.

3. Diminution of secretion. This may be attempted by (*a*) Atropine sulphate, I mg. hypodermically, most especialy when: collapse, with pale and moist skin, also indicates it. The dose may be repeated in one-half hour if no marked effect is obtained; after this it may be continued at intervals of two hours, the patient being kept on the verge of atropinism.

(*b*) Restriction of intake of fluid should be resorted to only as a measure of desperation, and if circulatory insufficiency likewise demands it; for, in general, natural reactions should be given credit for probably being beneficial. They should be restrained by extreme measures only when they actually threaten life.

(*c*) Hypertonic dextrose phleboclysis (from 10 to 25 cc. of 25 per cent. dextrose solution) and (*d*) blood letting to the extent of 500 cc. of blood – measures useful in pulmonary oedema –may possibly help to carry a patient through a critical stage.

4. Evacuation of the fluid by; (*a*) Postures. The head low posture may favour expectoration of very fluid exudate. So does the performance of the movements of artificial respiration, with continuous or intermittent aspiration of the fluid accumulating in the throat. Such manoeuvers may be life saving in illuminating gas poisoning.

The actual head down posture may be of great advantage in lung abscess and in certain bronchiectatic cavities. Such cough are characterized by being brought on by change of posture. The treatment is carried out by first placing the patient for five or ten minutes on the healthy side to permit drainage of purulent material into the larger bronchi, or, if the abscess is in the upper lobe, the patient should sit erect for ten minutes before lying on the healthy side. Then the patient's trunk should be inverted by having him lie crosswise on the bed with the groins at the edge of the bed, so that the body is bent at the hips and the head is at or near the floor, with the body vertical; an attendant should hold the thighs as they lie across the bed. The position is to be maintained for five or ten minutes, the patient breathing deeply. A pus basin had better be placed on

the floor near the mouth for collection of the profuse expectoration. This position or any other position that favours expectoration might be assumed four times a day, a half hour before each meal (because of possible emesis) and at bedtimes, and even more frequently. Thus the patient may be spared much coughing in the intervals. As such posture treatment is quite an exertion, it is of course not to be resorted to if the patient is extremely feeble.

Bronchoscopy is indicated if drainage is obstructed by objects removable by this means.

(*b*) Emesis. In infants and small children, induction of emesis may succeed in producing the powerful compressions of the chest that are required for the evacaution of retained secretion. Also, as the infant swallows the sputum, the evacuation of the stomach may be considered a form of "secondary expectoration." One gives for this purpose one teaspoonful of syrup of ipecac every fifteen minutes for several doses until the desired result is secured. For small infants half teaspoonful doses of syrup of ipecac may suffice.

The Useless Cough.

One should be very loath to condemn a cough as useless. But there are coughs that are not only useless but even harmful, as the cough of aortic aneurysm, the cough provoked by a tuberculous mediastinal lymph gland, or the after-cough of an acute bronchitis. A useless cough is one that not only fails to bring up secretion but has no secretion to bring up. This gives the indication of antitussic therapy, *i.e.*, the actual antagonizing of the cough reflex, which can be achieved by three different modes of attack, which may be employed separately or combined into one grand assault. These are (1) psychotherapy, (2) local sedation, and (3) depression of the medulla. Antitussic therapy should always be thought of in this order, because the first is the least likely to be harmful and is the one to be employed most generally, and the last is the most liable to be harmful, and should be avoided if possible.

1. *Psychotherapy.*—The patient should be urged to suppress the cough as much as possible. This is a good rule to lay down for all coughs, excepting, of course, the insufficient cough; for patients usually strain a good deal harder in coughing than is necessary or good for them. When there is expectoration to be raised, mucus that does not come up readily with one coughing spell will probably come up easily with the next. When there is no slime to expectorate, the patient's attention should be called to the utter uselessness of the cough, and its harmfulness should be explained to him. He should know that coughing begets coughing. If the patient remonstrates that he cannot stop coughing because of the irritation that forces him to do so, it may be admitted to be difficult, but it should also be pointed out that he may, at times at least, suppress

the desire to cough, and that each time he does so he makes it easier to suppress the desire another time.

Coughing is decidedly harmful and even dangerous whenever there is a "weak spot" in the lungs. The increased intrapulmonary pressure gotten up in coughing prior to the sudden opening of the glottis will stretch most of the least elastic portion of the lungs. It is this that makes pulmonary emphysema progressively worse, and that renders impossible the healing of cavities, be they bronchiectatic or tuberculous. It is this stretching of the weakest spot in the lungs that is the greatest possible hindrance to the checking of hemoptysis, and, by the possible causing of tears, a constant invitation to its recurrence. Such patients should not only be thought to suppress coughing as much as posssible, but, when cough they must, to do so with the glotus open, which reduces the cough to a forcible exhalation.

2. *Local Sedation of the Pharynx.*—This is likely to be especially indicated in coughs made worse by lying down. In children "marshmallows," honey and milk, or flaxseed lemonade are useful. Demulcent lozenges, such as Slippery Elm Troches, licorice gum drops, or other so-called cough drops, or even a lump of sugar, when slipped into the mouth the moment the warning tickle is felt in the thorat, may help in suppressing the cough. Ethylaminobenzoate (anaesthesin) lozenges are likely to be still more efficient for the purpose, as their use leaves a numbness in the throat.

3. *Depression of the Medulla.*—(*a*) Bromide is especially valuable when coughing is maintained chiefly by excessive nervous irritability. It may be resorted to in any cough that seems excessive, as it does not really check coughing. Syrup of Glycyrrhiza is a good vehicle for bromide (prescription 13). In this prescription the

Prescription 13.—*Bromide Cough Syrup.*

R	Sodium bromide	...	10.00 Gm.
	Anise water ...	...	10.00 cc.
	Syrup of Glycyrrhiza	... to make	120.00 cc.

M. Label: Teaspoonful in water every two or four hours (for excessive cough.)

dose of bromide is so small that when real sedation is required it might have to be multiplied by 2, 4 or even 8. Other vehicle syrup may be used; *e.g.*, the Syrup of Thyme, to which may be added 0.12 Gm. of potassium or sodium bromide per teaspoonful. There is no special virtue in the Syrup of Thyme. It merely offers an unusual and not unpleasant flavour, as does also, for instance, the Compound Syrup of Asarum. Variety in vehicle enables the physician to administer the same medicines for different purposes, which indeed might be very desirable in a neurotic individual who may need bromide for a variety of excessive nervous reaction. By prescribing the medicine in different vehicles for the different purposes,

the patient may be given the benefit of bromide, without arousing in the patient the resentful thought that, no matter what he complains of, the doctor always gives him the same medicine.

PRESCRIPTION 14.—*Codeine Cough Syrup.*

R Codeine phosphate ... 0.50 Gm.
Aromatic Syrup of Eriodictyon ... to make 60.00 cc.

M. Label: Teaspoonful in a little water every two to four hours as required (for useless cough).

(*b*) Opiates in sufficient dosage check coughing as if by magic. For this purpose codeine is best, the phosphate its most soluble salt, and the Aromatic Syrup of Eriodictyon (prescription 14) its most efficient disguising vehicle. When it is really wished to check cough, the codeine should be given in doses of from 0.03 to 0.06 Gm: every two to four hours as required.

(*to be continued.*)

MALIGNANT TUMORS OF THE MOUTH.

BY. F. A. FIGI, M. D.,

Section on Laryngology, Oral and Plastic Surgery: Malignant diseases of the mouth if the patient is properly treated in a reasonably early stage offer a good prognosis in a high percentage of cases. In spite of this fact, however, oral malignancy accounts for approximately 30 per cent of deaths attributable to cancer. The marked discrepancy in these statements emphasizes the need of further education of the public to appreciation of the malignant possibilities of various oral lesions and the necessity of early consultation, also of increased diagnostic acumen on the part of the dentist and physician and of earlier and more effective therapeutic measures in these cases.

Malignant tumors of the mouth, as of other parts of the body, may occur at any period of life but are encountered much more frequently after the age of forty years. Males are affected more often than females; the proportion is about eight or ten males to one female. The lower lip is the most common site of origin of malignant disease of the mouth. Cancer develops in this situation between three and four times as often as it does in the remainder of the oral mucous membrane.

Squamous cell epitheliomas comprise the great majority of malignant lesions of the mouth. Adenocarcinomas of mixed tumor type, melanoepitheliomas, hemangio endotheliomas, adenocarcinomas and the various forms of sarcomas occur much less frequently. The rate of growth of all of these tumors, especially the squamouscell

epitheliomas varies greatly; it may vary between inactive and fulminating neoplasms.

Certain local factors at times appear to have a definite etiologic bearing development of cancer of the mouth and directly to influence the activity and prognosis. Dental sepsis is commonly associated and is often extreme. On the other hand malignant growths in the mouth are encountered in examination of edentulous individuals only infrequently and when they do occur are almost always of an inactive type. The much greater frequency of the disease among males than females is striking in view of the fact that chronic irritation is more often present in the mouths of men. The possible relationship of the use of tobacco to the development of oral carcinoma is still disputed. Many of our patients with such growths have been heavy smokers. Moreover, on a number of occasions I have observed the portion of the inner surface of the cheek against which a patient had for years carried a quid of tobacco covered with a thickened leukoplakial lining and in several instances epithelioma had developed in this. Cancer inside the mouth frequently originates in areas of leukoplakia, particularly of syphilitic and papillary type and chronic thrush is at times a forerunner. Syphillis is present in from 40 to 50 per cent of cases of cancer of the tongue.

Symptoms of malignant disease of the mouth usually become manifest early although they may not attract the patient's attention until the lesion is practically inoperable. The time of their appearance and the severity depend largely on the situation of the growth, its activity and on the amount of infection present. In case in which highly malignant growths are situated well posteriorly on the tongue or the floor of the mouth, the presence of a metastatic mass in the neck, noticed by the patient as a painless lump, may be the first intimation of trouble.

Cancerous growths of the oral cavity vary greatly in appearance; nevertheless they are sufficiently characteristic to permit of clinical recognition in a high percentage of cases. Metastasis of such tumors into the regional lymphatic structures is prone to occur rather early in the course of the disease. The rapidity and extent of spread vary with the activity, vascularity and situation of the growth, the severity of trauma to which it may be subjected and the degree of inflammatory reaction and infection present.

Early diagnosis is essential if treatment is to be effective. Recen treatment as well as trauma often cause considerable difficulty and delay in both the clinical and the microscopic recognition of these lesions.

A number of benign conditions must be distinguished from ora carcinoma. Among these are the chancre, the gumma, simple, chroni inflammatory ulcers, tuberculosis, blastomycosis and various other infectious processes. At the Clinic we have encountered a number

of cases in which primary actinomycosis of the tongue had been mistaken for cancer. Hypertrophic lesions in the buccal folds attributable to ill-fitting dentures and infected angiomas are likewise confusing. One of the most troublesome problems is presented when syphilis and carcinoma co-exist, particularly in the tongue which is not unusual. Frequently antisyphilitic measures instituted in such cases because of positive results of serologic tests will be followed by marked improvement for a time. This early favorable response often results in the treatment being continued in spite of further activity of the lesion and the malignant growth may become hopelessly inoperable before the true nature of the lesion is recognized.

Malignant tumors arising in any given situation in the mouth tend to conform to a certain histologic type and degree of activity and their response to therapeutic measures is similar. These growths are therefore best considered according to their site of origin.

Lesions of The Lips.

The great majority of malignant tumors of the lips are squamous-cell epitheliomas and with few exceptions these arise on the vermilion border of the lower lip. Basal-cell epitheliomas at times develop on the cutaneous surface of the upper lip and may involve the vermilion border secondarily. Adenocarcinoma, which is rare in this situation, may arise within the body of either the upper or lower lip. Only about 1 per cent of patients with malignant lesions of the lower lip are females. While cancer of the lip most frequently occurs among individuals who are past middle age, on several occasions I have encountered it in examining persons who are in the second decade of life. Our youngest patient with this condition was a boy thirteen years of age. The growths are usually single but may be multiple. They commonly originate in simple ulcers, fissures, scars, areas of leukoplakia, keratotic and other benign lesions although some of them are undoubtedly malignant from their inception. The majority of cancers of the lip are slow growing or of moderate activity, approximately 85 per cent of them are grade 1 or 2. In almost half of the cases encountered at the Clinic, active treatment had been carried out previously. This fact is of considerable importance for the response to treatment is less favorable and metastasis is more likely to occur with recurring than with primary lesions.

The size of these lesions at the time treatment is sought varies greatly. Frequently they are only a few millimeters in diameter; however, they may range up to 5 or even 10 cm. They may involve the entire lower portion of the face. At times they erode the mandible and they may extend directly through the mental foramen and posteriorly along the inferior dental canal for several centimeters. With radical therapy a surprising number of them are brought under control in spite of such extension.

Cancer is prone to develop in any chronic lesion of the lower lip and the presence of thickening or ulceration in this situation for more than a few weeks if a man is past forty years of age, must be viewed with suspicion. The common practice of applying silver nitrate or other caustic substances, radium, roentgen rays or the actual cautery, to such lesions often leads to trouble later. In approximately half of the cases microscopic study only will permit of positive recognition. On this account I prefer to remove such lesions by excising an elliptical area extending along the vermilion border. This is readily done under local anesthesia and leaves no noticeable deformity. If microscopic study shows the lesion to be actively malignant, the regional lymphatic structures are removed later.

When the growth appears definitely epitheliomatous on clinical examination, it is removed by excising a wedge from the lip unless the patient's age or general condition definitely contraindicates this providing there is no attachment to the mandible and the lesion is of a low grade of malignancy, immediate plastic reconstruction is indicated even though the extent of the growth has necessitated removal of the entire lip. When the cancer is active and involves the cheeks or is attached to the mandible, wide excision which the cautery knife or destruction by electrocoagulation, leaving the wound wide open, is advisable. Plastic repair of the lip must be delayed in these cases.

Lesions of The Cheeks.

Most of the malignant growths originating on the inner surface of the cheeks are squamous-cell epitheliomas and are similar in clinical behavior to those of the lower lip, although the lesions of the cheeks tend to be slightly more active. They most frequently develop on a line opposite the occlusal surfaces of the teeth, since these regions are subjected to greatest trauma. Lesions, arising in the commissure between the upper and lower alveolus, are prone to metastasize early because of the alternate stretching and compression incident to movement of the jaw.

When well localized, cancers of the cheeks may be excised sharply or with the cutting diathermy electrode. Although the wound is at times sutured, more often it is left open. More extensive neoplasms and especially those involving the jaws are subjected to wide electrocoagulation. This procedure is supplemented by implantation of radium if the growth is highly malignant.

Unless the lesion is highly malignant or has received active treatment previously, removal of the lymphatics on the side of the involvement only is necessary.

Lesions of The Tongue and Floor of The Mouth.

Generally by speaking, malignant lesions of the tongue and floor of the mouth are the most formidable of all those which occur about the oral cavity. As a group, they are more highly malignant than

those which arise in the lips, cheek or alveolar processes and they are prone to metastasize more promptly. Radium supplementing surgical measures has definitely improved the prognosis in this group of cases but further improvement will probably result only through recognition and proper treatment of premalignant and early cancerous growths.

The most common malignant tumor of the body of the tongue is the squamous-cell epithelioma. Well localised carcinomas of the anterior portion of the tongue may be excised sharply or with the cutting cautery, particularly if they are not too active. Those situated further posteriorly as well as those on the ventral aspect and involving the floor of the mouth are more satisfactorily destroyed by diathermy and implantation of radium. Lesions too extensive for surgical removal should be treated with implanted radium together with external irradiation. Removal of the regional lymphatic structures should be carried out in all surgical cases for the nodes are frequently involved even though they are not palpable.

Lesions of The Jaws And Palate.

The jaws and palate may give rise to a number of different types of malignant tumors since these may develop from the bone itself, the soft tissues investing it or the dental structures. In addition, various types of active neoplasms at times originate within the antrum and involve the palate and upper jaw secondarily. Generally speaking carcinomas of the jaws are slow growing or of moderate activity and do not as a rule metastasize until they have extended to involve the adjacent soft tissues of the cheeks, lips or floor of the mouth. Rapidly growing epitheliomas at times develop on the alveolar processes but they are of infrequent occurrence. These tumors of the jaws are best treated by electrocoagulation supplemented with implantation of radium in the case of highly malignant or extensive neoplasms.

Melano-epitheliomas constitute a rare form of carcinoma seen in this situation. They usually arise in the palate and, like cutaneous tumors of this type, are highly malignant. They vary in color from a dirty gray to almost coal black.

The most common types of sarcomas about the jaws are the osteogenic and fibrous forms. These tumors usually grow more rapidly than carcinomas and are more difficult to control. Wide metastasis may take place early in the course of the disease. Irradiation is the treatment of choice for this group of tumors although the prognosis is always questionable.

Adenocarcinoma of mixed tumor type may develop in either the hard or soft palate. These neoplasms differ from all the other malignant tumors originating in the soft tissues of the mouth, in that they are encapsulated, grow very slowly and, as a rule, do not metastasize

until late in the course of the disease. Clinically they present as firm, smooth, rounded masses covered by normal mucous membrane. They are easily recognized on clinical examination and with careful dissection can be removed with the capsule intact, in which event the prognosis is good.

The adamantinomas or adamantine epitheliomas are multilocular, cystic tumors belonging to the group of cystic odontomas. They occur most frequently in the jaws but may also develop at the base of the skull in connection with the pituitary gland and even elsewhere in the body. They are most often found in the region of the angle of the mandible adjacent to the third molar tooth. They appear to originate from certain cells of the enamel organ from which their name is derived. They vary greatly in size at the time of examination from a few to about 15 cm. in diameter. They are composed of cellular and cystic portions, of varying size, separated by bony trabeculae which account for the "honeycombed" surface presented on palpation and the characteristic roentgenogram. These tumors are mildly malignant and rarely metastasize. Electrocoagulation or resection of a portion of the mandible offer the best prognosis.

Conclusions.

Clinical, diagnostic, prognostic and therapeutic study of malignant diseases of the mouth gives convincing evidence that the mortality in such cases is unduly high and that more careful consideration of diagnosis and treatment when these lesions are in the early stages will greatly improve the end results.

SUBINVOLUTION OF THE UTERUS

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Subinvolution is a condition following pregnancy in which the uterus, including its blood vessels and component layers, fails to resume normal size, shape, histological structure, consistency and function. In other words, it is an arrest in the process of regeneration anywhere short of the normal state of the resting organ. Let us consider the normal process of involution of the uterus. Beginning with the birth of the child or the expulsion of the fetus or ovum, involution of the uterus enters upon a process of diminution in size and construction which normally is complete only when it has been restored to its original state. The muscle fibers of the uterus during pregnancy increase in all dimensions about twenty times. The capacity of the uterus increases about four hundred and

fifty times. The vessels, both afferent, and efferent, the connective tissue and the endometrium show hypertrophy, to a degree for which we know no parallel.

PROCESS OF INVOLUTION.

When the process of involution begins, the uterus contracts from all sides by the energy of its own fibers, thoroughly compressing all vessels which permeate the "basket weave" of the middle layers of the organ. The uterus a few hours after delivery has a pale pinkish color due to ischemia—which proves the remarkable power of contraction of the muscle fibers. While in this condition, autolytic ferments begin their work upon the protoplasm of the muscle fibers and of the stroma, causing great quantities of complex protein to be changed to simpler structures which are disposed of by the circulation. The arteries and veins have become collapsed and thrombosed, and, according to the views of the latest students of this process, are hyalinized and completely absorbed, while new vessels from the external layers of the uterus permeate the muscle fibers and gradually replace, and assume the work of, the old set. Gristlelike cords, which are the remnants of the old blood vessels, may be seen many months after pregnancy.

The endometrium undergoes a remarkable change During pregnancy this lining, together with the layers of the ovum, make up the decidue which covers the entire inside of the uterus, except the placental site. Penetrating deeply into the muscle of the uterus are projections commonly called glands; so far as it is known they secrete nothing but are simply cell rests or island grafts from which a new endometrium generates by the tenth day. During the first ten days of the puerperium the placental site protrudes into the uterine cavity and becomes exfoliated like the outside layers of back of forest trees, taking with it all that great mass of useless blood vessel debris which made up the site of the placenta. This is an indispensable function. If it were not for the complete exfoliation of the placental site, three or four pregnancies would so fill the uterus with scar tissue that further pregnancies would be impossible, and the menstrual function would resolve itself into one continuous hemorrhage.

SUBINVOLUTION.

We have now reached the consideration of sub-involution, which is the result of the arrest of the process of involution and may occur at any point short of completion. Among the more common causes are birth injuries, especially cervical tears, perineal tears, or relaxations which permit the pelvic viscera to descend to an unnatural level. Chronic suppurations and fibroids frequently cause this complication. Toxemia, anemia, repeated pregnancies, diseases causing disability - such as long standing infections, pneumonia, and typhoid fever, malnutrition and endocrine disturbances—may cause or aggravate this condition.

The pathology of this condition depends upon the stage of involution attained before the process was arrested. The blood vessels are imperfectly thrombosed. Hyalinization of the vessels is partly complete and the absorption of the unnecessary portions unflnished. - The muscle fibers show fatty degeneration, incomplete absorption, sometimes cloudy swelling and give the impression of an unhealthy, water-logged mass. The normal ratio of muscle to storma of 60-40 appears disturbed or may even be reversed. The mucosa of the uterus may be necrotic. The placental site does not properly exfoliate and masses of collagen may still adhere to it. The uterus itself is generally in the retroverted and retroflexed attitude resulting in twisting of its major vessels, prolapse of the ovaries, partial blockage of its lymphatic return, so that normal circulation of tissue fluids is greatly hampered. There is a foul, grayish, frequently blood-streaked and sometimes hemorrhagic uterine discharge which is the result of chronic inflammation of the various layers of the uterus—in other words, metritis.

The diagnosis of this condition is not difficult. The patient says she has not properly recovered from her pregnancy, has pain in the back, loins, lower abdomen, or in the sacral region; walking and sitting are uncomfortable and may be intolerable because of "that awful dragging-down feeling" due to heavy and painful pelvic organs. Irritating discharges may have caused local ulcers which add to the general and local discomfort of the patient. She is and looks anemic, has no appetite, and is scarcely able to "drag herself around." Thus we have a picture of a very miserable and unhappy human being. Fortunately if discovered in time and promptly and energetically treated this condition is one of the most tractable of any of the troubles of women.

The prognosis of this condition is good if proper treatment is applied. However, if the condition is neglected or if the doctor says "You will be all right in a month or six weeks" or, "After all, it takes half a year to get over having a baby," the resulting delay may cause permanent and irreparable injury to the sufferer. The condition discussed under the pathology of the reversal of the ratio of muscle to fibrous tissue can easily result in permanent structural changes.

TREATMENT.

The medical treatment in subinvolution depends entirely upon its cause. If the patient presents only the anemic type, or if there is some systemic disease, the treatment is solely medical—provided all local conditions are normal. Rest in bed upon a hard mattress, supported so that it does not sag, is of great help. Sleeping face down may be of benefit, and knee chest exercises are valuable. The Sitz bath with the water maintained at a temperature of 106 to 110 degrees is beneficial. Various gyneologic

manipulations may be of value. Bearing in mind that the uterus is water logged, a certain amount of bimanual massage, if the patient is not too fleshy, can be of great benefit. The vaginal hand presses the fundus to the abdominal wall and, by gently stroking from the top in all directions with the abdominal hand, a certain amount of massage can be transmitted to the uterus. If this is faithfully done three or four times a week for a fortnight, a marked improvement will be noticed. The Elliott treatment, entailing the use of a properly shaped waterbag placed in the vagina and maintaining an elevated temperature is of value in these conditions. If the patient seems sluggish, one-half grain of thyroid extract, t.i.d. may be helpful. The most important therapeutic considerations, however, are those of an hygienic nature. No woman can properly recover from a pregnancy if there is insufficient sunshine, fresh air, good food, or proper rest available to her. If the household is not tranquil, if there is an officious grandmother, or if the baby is colicy and disturbs her rest frequently at night—all these conditions must be remedied or the doctor's work will be largely nullified. I use a capsule containing three or four grains of powdered extract of ergot U.S.P.; quinine two grains; and a sixtieth of strychnine. This can be given twice daily over a period of weeks and brings about favourable effect. The newer ergot derivatives may be more potent and convenient. If the uterus is retroverted, the judicious use of a hard rubber pessary is helpful. A word about pessaries: The hard rubber doughnut of the Hodge pessaries are best suited to this purpose. If a doughnut pessary is properly fitted it is of great help in keeping the uterus at the normal level so that the necessary circulation is maintained. Most women tolerate soft rubber pessaries badly, because there is the same friction between soft rubber and the vaginal wall that there is between an eraser and writing paper—and this constant friction soon results in vaginal ulcers. Hard rubber material on the other hand, does not become macerated, slides smoothly, and does not cause discomfort In the presence of profuse discharge, these pessaries should be occasionally cleaned. Removal is not necessary, as all that is needed is thorough treatment of the vaginal mucosa with alum solution or one-half per cent. silver nitrate solution. Women should be instructed to manipulate the douche point in such a manner that the crevices around the pessary are thoroughly irrigated.

SURGICAL ASPECTS.

There is much difference of opinion on some phases of the surgical treatment of subinvolution, but all are agreed that cervical and perineal lacerations and relaxations must be repaired. If a foul discharge exudes from the cervix, there may be remants or undislodged pieces of placenta or of placental site in the uterus. If the patient is free from fever, curettage may be undertaken. My method

for dealing with these conditions is as follows: I use the conical cervical dilator, first grasping the lower lip of the cervix with a vulsellum forcep. I prefer to grasp the lower lip, because traction there tends to straighten out the cervical canal. Beginning with the 11 or 12 dilator I gradually work up to about a 26, which is large enough for any curetting operation. Using the conical dilators, inserting and pressing them in slowly, results in an equal dilation of the cervix in all directions. The process is essentially that of fatiguing the circular muscle fibers of the cervix so that they relax. The stretching process is kept up in a slow and leisurely manner. A good test of the proper rate of stretching the cervix is obtained by watching the tenaculum. If the pressure is moderate and no particular sign of strain is noted at the point where the tenaculum grasps the cervix, the rate is adequate. Ten minutes of actual dilating time should be the minimum. Surgical anesthesia is necessary, as otherwise the cervix will instantly spring back as the dilator is removed. In that way the cervix is not torn—which, by the way, occurs very easily because of the edema present in the subinvoluted uterus. Usually the amount of material found will be surprisingly small. A little necrotic debris is usually all that is found, but it is the cause of the trouble. Do not under any circumstances scrape the uterus vigorously. In certain conditions curettage with a sharp curet until eliciting the familiar grating sound, is indicated—but that is not the case in subinvolution. What we are trying to do is simply to eliminate undesirable "leftovers" from the pregnancy, and it is indeed seldom that a very moderate amount of scraping will not do. If the cervix is already wide open, the gauze-covered finger is much superior to the curet. With it the surgeon may easily explore the inside of the uterus, bringing it within reach by the other hand on the abdomen in such a way that all sides and fundus of the uterus may in turn be presented to the examining finger. Let me emphasize that the amount of material obtained in curettage for this purpose is entirely out of proportion to the damage it may do. After curetting it is not necessary to wash out or irrigate the uterus in most instances. If the surgeon wishes to do so, the best solution is hypertonic, three or four per cent, salt solution, maintaining the temparature at about 110 degrees and using a large rubber catheter. The hypertonic salt solution prevents absorption of the water-soluble elements of the debris in the uterus and prevents subsequent febrile reaction and chill of the patient. Packing of the uterus under these circumstances is a procedure that is surgically unsound. Why try to obtain drainage and then impede it by packing? The uterus tends to contract especially after the irrigation. However, if the surgeon deems it necessary to pack, a three-inch roller bandage that has been properly sterilized by boiling or in the auto-clave may be used. It

forms a firm, snug-fitting pack and can be easily and painlessly removed at the proper time by pulling out with the forceps.

CERVICAL LACERATIONS.

A few words on cervical tears may not be amiss: The cross section of the cervix shows three main strata. The interior of the cervix with its submucosa, containing glands and the arbor vitae, may be seen in cross section. More deeply we note the muscular layer, which is much the thicker and consists of circular fibers interspersed with longitudinal fibers which originate in the fundus. Joining the vaginal mucous membrane is the endocervix above described. What appears to be an angry red cervix in a laceration is actually the columnar epithelium of the cervix exposed to the rough vaginal mucosa When a cervix tears, the muscular fibers pile up on either side of the tear. resulting in thick anterior and posterior lips which in no way resembles the normal cervix. The problem then in repairing the cervix is to restore the structure and balance the tension of the cervical sphincter and cover it properly with mucous membrane. The edges of the tear are denuded and all scar tissue carefully dissected out. Bleeders should be tied with fine catgut. Using a short Emmett needle, beginning at the apex of the tear, place a suture beginning in the cervical canal, proceeding almost to the circular layer, spacing over the gap and going out again into the cervical canal. This is tied and the suture is continued until the real lip of the cervix is reached. This suture has all knots in the cervical canal. If the tear is bilateral this step should be performed on each side before proceeding with the next step. Then reaching well up into the apex of the tear, a second row of sutures is placed, entirely buried; thus the continuity of the sphincter is restored. When this has been completed on both sides, the vaginal mucous membrane is sewed over this, constituting a third layer. If the tear goes high in the fornix it may be well to place the highest stitches well away from the cervix, because there will be some lateral tearing of the fornix. Then proceeding downward, place overcasting and locking stitches until the external of is reached. Repairing a cervix in this manner results, in the majority of instances, in healing by first intention. If the next labor is slow, these are not likely to tear out again, because the scar tissue is probably the strongest part of the entire cervix. Recalling the above suggested points it follows that cauterization is not the remedy for deep cervical lacerations. It is, however, an excellent means of repairing small lacerations which are not over one-half inch deep. A cervix that has been repaired or one that has been recently dilated should receive some after treatment by passing a sound such as an F. 16 or 18 periodically for several months. Strictures may result if this simple precaution is not observed. The repair of the perineum may safely be undertaken when the discharge is not too foul

or when only a small amount of material has been removed by curetting as suggested above.

POST-ABORTION SUBINVOLUTION.

So far we have considered only subinvolution following term delivery. The same conditions obtain following abortion or miscarriage. Fetal remnants remaining in the uterus for any length of time causes temporary damage to the organ and sometimes results in permanent fibrotic changes which may indicate hysterectomy for the resulting hemorrhagia. In the manner suggested above the curet can easily be inserted and with it the remnants removed But, remember, under no circumstances stretch the cervix or disturb the mucosa of an infected uterus. The difference between removing fetal remnants and of scraping or ploughing up the mucosa is as great as the contrast between night and day. One is beneficial and the other is deadly.

Cases of subinvolution due to pelvic pathology such as pelvic abscess, pelvic phlebitis, fibroids, form a separate category and need not be considered here, since that is secondary to a surgical condition apart from this discussion. It must always be borne in mind that not all cases of subinvolution lend themselves to one form of treatment. We practice a profession and individualize our cases and problems. What counts most of all is the ingenuity, the skill, and common sense of the physician. With an accurate knowledge of the pathology and of the causes of subinvolution, the efficient treatment will be devised and judiciously applied by the doctor.

(*Southwestern Medicine, Oct. 1938.*)

Science when well digested is nothing but good sense and reason. STANISLAS.

Diagnostic Pointers.

Measles.

Although the rash in measles commonly appears on the fourth day, the eruption may be the first sign of the disease, or it may be delayed for seven or eight days. There is no disease in which the length of the invasion period is so variable.

Gall Bladder disease.

The characteristic symptoms of gall bladder disease are :—

1. Indigestion, fullness especially at night and having no relation to food.
2. Eructation of gas.
3. If actual pain, there is vomiting.
4. Relief after vomiting.
5. Tenderness if the gall bladder is infected.
6. If gastric symptoms persist and tenderness is marked, gall stones are present.
7. If there is a sharp abdominal pain referred to the back or to the right scapula and relived by vomiting, gall stones are certainly present.
8. A transient jaundice completes the picture.

Herxheimer reaction.

This reaction is the aggravation of the symptoms or the appearance of new symptoms which some times takes place in the beginning of an efficient antisyphilitic treatment.

Goldthwaites sign.

In recent sacro iliac displacements, if the patient is placed on the table lying on his back and is told to raise the leg on the effected side, he will in severe cases be unable to do so.

A fly is a very light burden but if it were perpetually to return and settle on one's nose it might weary us of our lives. F. BREMER.

Therapeutic Gleanings.

Warts.

An intravenous injection of. 6 grm. of Neosalvarsan cured a case of multiple warts of the scalp which had been treated by many methods including X-Ray without effect.

Pain in Aneurism.

For the pain in aneurism especially of the arch of the aorta nothing gives such relief as 10 grain doses of potassium iodide given three times a day.

Camphor.

Camphor given by mouth or injection acts as systemic support of prolonged duration and is indicated in a gradually increasing failure of the heart threatening life.

Haemoptysis.

It has been found that in cases of severe haemoptysis much good is accomplished by the diversion of blood to the surface which is produced by giving 1/25 of a grain of atropin hypodermically.

Hysteria.

Avoid opiates in hysteria. The hysterical attack is due to lack of self control and no drug weakens self control more effectively than does opium.

Pain.

An excellant analgesic mixture consists of ½ grain of codeine with 3 grains of pyramidon.

Parathyroid substance.

Parathyroid is apt to be unsatisfactory and unreliable regardless of who puts it up. This in no way implies dishonesty or inefficiency on the part of any pharmaceutical house.

Kindness has converted more sinners than either eloquence, zeal or learning. FW. FABER.

Extracts.

TREATMENT OF MAMMARY ABSCESS.

H. J. B.. Atkins, who has been treating mammary abscesses by aspiration, gives details of the method in *Guy's Hospital Gazette.*

1. The treatment, which requires considerable patience and care, is time-consuming ; but it is worth while because there is no need for a general anaesthetic,no hospitalization, no dirty dressings and the cosmetic result is much better than when incision is required. Further, nurses "on the district" can go on attending midwifery cases when they have to deal with a breast abscess treated by this means, as there is no danger of carrying infection.

2. Aspiration is a suitable method of treatment for all breast abscesses, except the subcuticular variety. The intramammary abscess with a subcuticular extension is also suitably treated by this means, but the technique is slightly different and the treatment more difficult, so that it would be better at this stage to advise incision in these cases. The most difficult part of the treatment is in deciding when to aspirate, and this can only be judged by experience. Any of the signs of pus constitute indications for aspiration, and particularly redness or oedema of the skin, even when fluctuation cannot be detected. I have found that the more of these cases that I do, the earlier I diagnose pus.

3. The method consists in giving the patient a quarter of a grain of morphia twenty minutes before the aspiration is due to begin, and getting her to lie quietly on the bed or couch where the aspiration is to be performed.

The whole breast is carefully cleaned and a subcuticular wheal made over the most prominent part of the abscess with 0.75 per cent. Procaine solution to which the requisite amount of adrenalin has been added. This wheal must not be more than 1 cm. in diameter, otherwise the skin will slough.

The Procaine is then infiltrated into the breast tissue underlying the wheal, and by firm and controlled pressure the needle is made to enter the abscess cavity through its tough wall. As soon as this is effected the plunger of the syringe, which previously could only be pressed down with difficulty, suddenly passess rapidly and smoothly through the barrel of the syringe. The needle is then slowly with drawn and more local anaesthetic is injected on the way out. After waiting a full minute, a specialwide-bore needle is mounted on to a 20.cc. syringe and passed carefully into the abscess cavity. The pus is then aspirated and the amount withdrawn measured. The syringe is then loaded with a volume of 50 per cent. Dakin's solution equal

to four-fifths of the volume of pus withdrawn and this is slowly injected into the abscess cavity, being then evacuated and discharged from the syringe, keeping the needle *in situ*. This process is repeated (sometimes twenty or thirty times), until the aspirated fluid is practically clear and stained only with a little altered blood. The abscess is finally emptied as completely as possible. During the course of aspiration it may be found that fresh loculi are broken into as is evidenced by thick pus being once more withdrawn into the syringe. The appearance of a little blood indicates that the aspiration is drawing to a close.

At the end of the washing out the needle is withdrawn and the puncture hole sealed with collodion. Gauze sponge is then applied over the skin covering the superficial wall of the abscess in such amounts and folded in such a way that, when it is strapped tightly to the breast it tends to obliterate the abscess cavity, approximating the deep and superficial walls. The breast is then suspended, but not compressed, by means of one or two strips of elastoplast carried from the scapular region of the same side, under the affected breast which is protected with wool in the submammary sulcus, and up over the medial part of the opposite breast, or between the two breasts, to the shoulder of the opposite side. The arm on the side of the affected breast is put into a sling, partly in order to rest the pectoral muscles of that side, but mainly to prevent an energetic Borough mother from continuing with her full house work for at least two or three days, until the inflammation has subsided.

The breast must be inspected at least every fortyeight hours until the condition is obviously settling. It is only very rarely that a second aspiration is necessary, and I have never had to resort to incision. The problem as to whether to wean the baby from the affected breast, to evacuate that breast by means of the pump, or to dry up the secretion is dealt with according to the established principles underlying the treatment of breast abscesses by the whatever method.

ULTRAVIOLET TREATMENT OF ERYSIPELAS.

Miland E. Knapp, M.D., in *The Archives of Physical Therapy, X-ray and Radium*, for Sept., 1937, says that the most recent treatments for erysipelas are roentgen radiation, erysipelas streptococcus antitoxin and ultraviolet radiation. Of these, ultraviolet radiation proved to be the most effective and the most easily available method.

Two years ago he reported 340 cases of erysipelas treated by ultraviolet radiation alone. This was a continuation of the work of Ude and Platou. The present report brings the study through the year 1936.

During 1935-36, 116 cases of ersipelas have been treated, 91 by ultraviolet radiation alone.

The dosage ranged from 5 to 20 erythema doses. Some of these treatments were given with a Hanovia mercury arc-lamp and some with the so-called cold-quartz type of lamp. The technic consisted in exposing the involved area and a margin of 1 to 3 inches of normal skin to the ultraviolet radiation. In facial erysipelas, the eyelids were left uncovered if they were involved; otherwise the eyeballs were covered with small circles of paper, leaving the eyebrows exposed. When multiple exposures were necessary. the edges were allowed to overlap. In most cases no packs of any sort were used, because they seem to inhibit the development of maximum erythema. Sterile white vaseline was applied at times after wrinkling and desquamation had begun to relieve the feeling of tenseness of the skin.

Since there is a remarkable similarity in all our series a synoptic analysis of our results is as follows:

Number cases treated, 510; number and percentage of deaths, 42 (8.20 per cent.); number deaths due directly to erysipelas, 38; number of recoveries, 469; average time to normal temperature, 3.59 days; number of patients less than 1 year of age, 15; percentage of deaths among patients less than one year of age. 11.1 per cent.

NITROGLYCERIN IN VOMITING OF PREGNANCY.

In the *Journal of the American Medical Association* for Feb. 12, 1938, John M. McGowan, J. O. Baker, Arthur, M. Torrie and John Lees write:—

It is generally believed that pregnancy predisposes to disease of the biliary tract. In previous papers one of us was concerned in reports of relief of biliary pain following cholecystectomy. Pain seemed to be due to increased pressure in the bile ducts resulting from an obstruction at the lower end of the common bile duct owing to a muscle spasm. This spasm seemed to be in the muscle in the second portion of the duodenal wall. This spasm and the resulting pressure and pain were relieved by the use of amyl nitrate and glyceryl trinitrate.

Recently in a case of intractable vomiting of pregnancy in which jaundice had begun to develop, it seemed possible that such a spasm might be a causative factor. Glyceryl trinitrate was given after each meal, with the result that vomiting stopped and a proposed therapeutic abortion was rendered unnecessary. This experience suggested further consideration of the problem, and X-ray studies were made of the duodenum in two women suffering from the vomiting of pregnancy.

In each case a spasm of the second portion of the duodenum was noted. The pylorus was relaxed, and reflux of barium (injected into the duodenum through a tube of the Sawyer type) took place into the stomach. The stomach seemed to lack tone, as evidenced by the low level of the duodenal tube as it crossed the vertebral column. Following the inhalation of amyl nitrate, the second portion of the duodenum was relaxed and proper emptying of the duodenum into the jejunum occured, Further, the pyloric and gastric tone was increased and there was less reflux of barium into the stomach.

CLINICAL APPLICATION.

Twelve consecutive patients who suffered from vomiting of pregnancy were treated by means of glyceryl trinitrate (nitroglycerin) 1/100 gr. (0.0006 Gm.) under the tongue before or after meals. In these patients the condition was more severe than usual; all had had morning sickness which progressed to severe vomiting. Five of them required hospitalization. It was only after the common methods had failed that treatment with glyceryl trinitrate was started in most cases. The results were uniformly good. All patients ceased vomiting within two days of the onset of treatment; one patient did not vomit once after the drug was used. It was found that taking the drug 10 minutes before meals gave more complete relief of nausea than taking it after meals. No untoward effects were noticed except a transient headache of a few minutes' duration. We advised the patients to remain in the prone position for 10 minutes after placing the tablet under the tongue.

The aetiology of vomiting of pregnancy is still probably far from being understood, and it is likely that in some cases hyperemesis is so severe that it cannot be relieved by administration of glyceryl trinitrate. We feel, however, that duodenal spasm is an important factor which, when overcome, allows the pregnancy to proceed with comfort to the patient. It will probably not be found necessary to continue the use of glyceryl trinitrate very long, as the tendency to vomiting naturally decreased as the pregnancy advances. In the later stages of pregnancy there is an opposite mechanism coming into play, and we found that heartburn in late pregnancy was made worse by glyceryl trinitrate.

COFFEE AS A CAUSE OF CARDIAC PAIN.

Robert L. Levy writes in "The Annals of Internal Medicine," November, 1937, that coffee drinking has received but scant attention as a cause of cardiac pain, though briefly mentioned by some of the older clinicians. While the number of such cases is not large, yet, in my experience, cardiac pain owing to coffee is more common than that caused by tobacco. It occurs predominantly in persons with apparently normal hearts, but all of those whom I have seen with such pain have been high-strung, tense individuals. It is probable that their increased susceptibility to coffee was due, in part, at least, to a lowered nervous threshold.

TYPE OF PAIN.

The character of the pain is different from that of the so-called "anginal" type, in that it is not severe, is of relatively long duration, and is not induced by effort or emotion. It may radiate to one or both arms, causing a sensation of heaviness or soreness. When present, it is not aggravated by exercise nor is the discomfort relieved by taking nitroglycerine. Physical examination reveals no signs of organic cardiac diseases. In spite of these distinguishing features, mistaken diagnosis have been made and patients have been alarmed and restricted in their activities without good cause.

CAFFEINE EFFECT.

The predominant action of moderate doses of caffeine consists in vasodilatation combined with cardiac stimulation. The heart rate is accelerated, the amplitude of cardiac contractions is increased and cardiac output is correspondingly augmented. The medullary centres (respiratory, vasomotor, vagus) and the areas of the brain which control psychic processes are stimulated. Chronic caffeine poisoning causes palpitation which is sometimes associated with a cardiac arrhythmia, most frequently owing to premature beats. Dyspnoea may occur. Neuralgias of various sorts have also been described.

The manner in which caffeine causes cardiac pains cannot be explained satisfactorily until more definite information is at hand concerning the mechanisms by which painful stimuli are initiated in the heart. The fact remains that in certain persons unduly susceptible to caffeine because of increased nervous irritability or for some other unknown reason, coffee may induce cardiac pain. To recognize the existence of this relationship is, on occasion, of practical significant clinical importance.

Medical News and Notes.

THE TINNEVELLY DISTRICT MEDICAL ASSOCIATION, PALAMCOTTAH.

(*Tinnevelly Branch of the Indian Medical Association*)

The Monthly Meeting of the Tinnevelly District Medical Association was held at the Board High School, Sankarankoil on the 24th of September 1939. Members numbering 19 were present. After Tea, the meeting began under the presidentship of Lieut. Col., K. V. Ramana Rao, I M.S., The Secretary and Treasurer read out the minutes of the President's Function held on the 27th of August 1939. The letter from the Honorary Secretary. The Indian Medical Association, Calcutta regarding the help to be rendered to the Civil population in case of Air-raids etc., was read and was agreed to render every assistance to the civil population in that eventuality.

Dr. K. Rama Ayyar, M.B.B.S., Honorary Assistant Medical Officer, read a paper on "Burns" and read out case-notes treated in the Headquarters Hospital, Palamcottah. Dr. G. S. Tampi, B.A., M.B.B.S., Assistant District Medical Officer, described a case of undescended testis got strangulated in the inguinal canal and successfully operated in the Headquarters Hospital, Palamcottah.

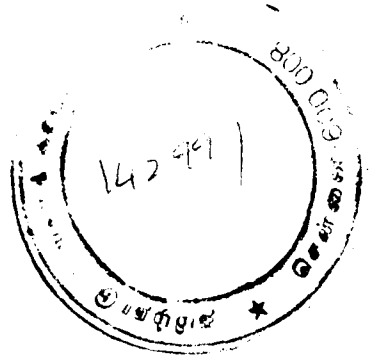
Dr. T. R. Srinivasa Iyengar, L.M.P., Selection Grade Sub Assistant, Surgeon, L. F. Hospital, Sankarankoil demonstrated a case of Osteo Myelitis.

After discussion by the members present, Lieut. Col., K. V. Ramana Rao, I.M.S., summed up the salient and important features of all the cases and their diagnosis in detail. He offered his thanks to Dr. T. R. Srinivasa Iyengar, for the excellent arrangements. Thereafter an excellent Dinner brought the happy gathering to a close.

THE MEDICAL PRACTITIONERS ASSOCIATION NUZVID.

A Meeting of the above Association was held on 6-8-39 in Government Hospital Nuzvid which was specially called for on account of the departure of Dr. Mrs. N. M. C. Seshagiri Rao. L.M.P., Private Medical Practitioner Nuzvid from the midst of the members. The other members of the Association were at home to the guest of the day. Several members spoke about her keen interest and enthusiasm towards the Association and her sincere co-operation in several respects.

Another meeting of the Association was held in the Government Hospital, Nuzvid on 16-9-39 to give a social send off to Dr. Simhachalem Naidu of the Government Hospital, Nuzvid who was Posted to Bezwada. His Successor Dr. C. Applachari also was present and was proposed to the chair. The Secretary Dr. N. Rama Rao of Gollapalli spoke upon the valuable services of the guest as a member of the Association, though his stay at Nuzvid was for a short time and his helping nature not only to the Association but to individual members professionally. Light refreshments and tea, were served on behalf of the Association and after tea, Dr. Applachari gave his experiences in the Western countries as a post graduate student which was much interesting and well appreciated by the members. After a vote of thanks, the meeting ended.



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