it would appear to follow as a corollary of this proposition that it locks up the accumulating waste materials in the uterus and when relaxation occurs, allows them to be carried into the system in large quantities. It also seems reasonable to infer that such an action as this is capable of producing a change in the character of the products of muscular decomposition and from lack of oxygen permitting the formation of more virulent materials (ptomaines or whatever they may be) and thus producing acute attacks of fever and systemic disturbances for which we have hitherto not been able to assign a cause. Every obstetrician has doubtless seen cases in which, after the most painstaking care and scrupulous cleanliness attacks of fever have developed for which no reason could be assigned.

Is it not possible that these are cases of true auto-infection produced by organic poisons formed in the rapidly involuting uterus? Is it not also probable that the so-called *milk fever* is largely due to a similar cause?

While the use of ergot has many dangers for the mothers it is doubly fatal to the child. As you all very well know, during a violent contraction the passage of the blood from the placenta to the child is interfered with, or in other words its respiration for the time being is stopped. If this state of affairs lasts for any length of time the child is profoundly asphyxiated and in many cases passes beyond the range of the most consummate skill, and we have another added to the long list of cases of misdirected force and an existence cut short.

But it may be asked, when if at all, should ergot be used or what agents can take its place? Before the birth of the child I do not believe it should be used at all. Uterine inertia should be overcome by quinin, viburnum prunifolium, small doses of hydrastis, gentle kneading and friction over the uterus, with the correction of faulty positions and the support of lax abdominal walls by means of a tight binder over the uterus and finally resort to the forceps when other means have failed. If the third stage of labor be properly managed, the physician giving careful personal attention to the mother from the time the child is born until the complete expulsion of the placenta which should be removed by the Credé or some modification of the Credé method, I have reason to believe that very few cases of so-called retained placenta, or post-partum will be encountered. Active hemorrhage during the third stage demands prompt action and immediate removal of the placenta, and to attain this end ergot can render no assistance and may greatly delay and impede its removal.

After the delivery of the placenta I believe some agent or agents that secure and maintain a mild, tonic contraction of the uterus are serviceable and for the last six or eight years have been in the habit of administering the following combination, viz:

R. F. E. Ergotæ Grams.
 F. E. Hydrastis canadensis aa 15.00
 F. E. Hamamelis virginicae qs. ad . . 60.00
 M. Sig: Teaspoonful three times a day.

But it may be asked why retain the ergot? I am free to confess that this is more of a sop to Cerberus, a deference to long established practice coupled with the instinct of self preservation, than to a well grounded belief in its necessity. The hydrastis stimulates normal uterine action but does not produce continuous contractions like ergot and I have been

much pleased with its action; the hamamelis acts as a synergist and moreover has marked tonic effect on the muscular tissue of the veins. I have thought that the latter remedy given both before and after labor would have a beneficial effect in maintaining the tone of the venous system, preventing engorgement of the veins and thereby guarding against the various phlegmasiæ and last, but not least, help to prevent the formation of hemorrhoids.

For post-partum hemorrhage, I regard prevention of far greater importance than any remedy. Treat every case as though you expected it to terminate in serious hemorrhage and you will very rarely be called upon to face this terrible emergency. In those cases where no precaution can prevent the accident what shall we do? The first and to my mind most important requisite is, *keep cool*, do not get excited but have your thoughts collected and all your resources fully under command. Grasp the uterus externally firmly in one hand and introduce the other previously rendered aseptic into its cavity; turn out the clots and make pressure with the closed fist on the internal walls. The injection of hot water, from 115 degrees F. to 120 degrees F., vinegar, or packing the uterine cavity with iodoform gauze are frequently employed and highly lauded expedients.

There is one other agent, however, which I think should receive more attention than has been accorded to it in the past. I refer to the interrupted electrical current. Here we have an agent that can be applied more promptly than almost anything else, that is absolutely under control, that induces prompt and effective contractions and can be instantly discontinued when the desired effect has been obtained.

THE RELATION OF CHRONIC NASAL AND LARYNGEAL DISEASES TO PULMONARY TUBERCULOSIS.

Read before the Colorado State Medical Society, Denver, June, 1894.

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For the purpose of inquiry into the relation of chronic nasal affections to those of the throat and chest occurring in connection with pulmonary tuberculosis, I have analyzed my last 219 reports of chest examinations. Taking up each report in its exact order, 19 of these, while pulmonary, were apparently non-tuberculous and therefore omitted, leaving 200 to be analyzed. The inquiry was stopped at this number because it seemed sufficient to draw conclusions from and show the tendency of the relationship, and on account of more extended observations requiring more time and labor than could be then spent upon the subject.

There were, therefore, 200 cases of pulmonary tuberculosis to be investigated which were not in any way selected, but taken in the order in which they presented themselves to me for their first examination, running back from a recent date. Of these 200 chest cases, 33 had also nasal disease, 38 also laryngeal, and 23 had both in addition to their lung affection, making 56 with nasal and 61 with laryngeal complications. Only clearly marked cases being noted.

The nasal cases were divided: 1, into those in which the disease was most evident or was known to have commenced, or existed solely or mostly on one

side more than the other, and these again into right or left; and 2, into those in whom the amount of disease or obstruction appeared about equal, and in whom there was no clear evidence of its having begun on one side more than the other, these being grouped for convenience under the head of median.

To enlarge a little on this classification, septal deformities either divergencies or exostoses in the form of shelves or spurs or compensatory buttresses or sigmoid curves, were evidently the most common causes of the stenosis and consequent rhinitis, and therefore the side upon which the stenosis existed, or was most complete, was taken as the one under which the case should be classified even though, as is often the case, the disease of the membrane or turbinated bones was more marked on the other side. Good reasons for this condition are given by Bosworth in his recent and most valuable work upon the nose, in the chapter upon hypertrophic rhinitis, which is well worth reading in connection with this general subject, but which can not be quoted from satisfactorily except at too great a length for the limits of this paper.

The classification was made from the side upon which the chief cause of the disease appeared to be, rather than where its worst symptoms might happen to be exhibited later in its course.

The septal abnormalities referred to were found to be the most frequent initial cause, although there were some cases in which the primary cause appeared to be hypertrophy of the turbinated bodies, or adenoid, or polypoid growths, or an ulceration simple or tuberculous.

Under the head of median there are undoubtedly some in whom the disease had had a starting point on one side but in which the advance of the disease had masked the origin, so that some of these if they could have been traced up should have been classified as right or left.

For the purpose of the inquiry as to the relation of the nasal disease to the pulmonary, the cases were again classified under right, left, and median, with regard to their pulmonary disease. The side of the chest in which the symptoms first appeared, or in which it was most manifest deciding the heading, while those in which the disease was about equal on both sides, or the side of origin was unknown, or had apparently begun on both sides at once, are classified under the head of median.

Defined in this way, it was found that of the nasal cases, in twenty-four the disease appeared to have originated upon the right side and fourteen upon the left. Of the twenty-four cases of right nasal disease the right lung was primarily or chiefly affected in seventeen; the left in one; both equally in 6. Of the fourteen cases of left nasal disease, eight were primarily affected in the left lung, four in the right and two equally in both. So that in the thirty-eight nasal cases where the disease could be classified right or left, 65.8 per cent. had their lung disease primarily or chiefly upon the same side as the nasal disease. It is interesting to note that the case of right nasal disease in which the lung disease was on the opposite side, was one where stenosis of the right nostril had been caused by a fracture of the septum, and of the four cases of left nasal disease where the pulmonary disease was on the right side one also was known to have been a traumatic stenosis.

The causes of this curious symmetry between the

nasal and thoracic affection, are matters of interesting speculation. Interference with nasal respiration undoubtedly influences thoracic disease as will be later discussed, yet it is impossible to believe that the obstruction to the passage of air through one nostril could directly affect the air current entering the lungs through one bronchus more than the other, nor could possible extension of disease along the continuous membrane account for it. Bosworth states his belief that chronic inflammations of mucous membranes are usually local and not general. "Diseases of the Nose," p. 123, W. Wood & Co., N.Y.

With respect to what has been pointed out as the chief cause of nasal obstruction and so of nasal disease, viz: Septal divergencies or hypertrophies, it is assumed by most rhinologists that their chief cause is injury, many of the injuries arising before birth or in childhood and passed over unnoticed. Bosworth ably upholds this view and cites the examinations of Duret, who found the septal growths were composed essentially of plastic infiltration, thus showing their inflammatory origin (p. 290).

While we all know how very much exposed to injury the nose is, we also know how surprisingly it recovers apparently unharmed from many a blow. In the island from whence I came, the successful causing of a bloody nose to one or more of one's fellow students was a necessary portion of the curriculum to be gone through by all who sought distinction in an English school, and many a deed of prowess has been wrought upon my own proboscis and yet I have escaped a diverted or hypertrophied septum. In youth at which time most nasal injuries are received, the elastic resiliency of the parts doubtless prevents permanent deformity, though when the blow is not too violent or one sided and yet there is permanent injury resulting, it may be that the naturally weaker side yields and puts forth callus to afterwards cause an obstruction. In this connection it is interesting to note that the two cases of injury referred to where the obstruction was asymmetrical, were doubtless so because the injury resulted in a fracture by a blow from the same side as the afterwards affected lung. These two cases in not following the apparent rule may be held to give additional evidence of its existence.

The facts would appear to suggest an underlying cause in a common deficiency of resistance to disease or injury on the same side of the body, which was probably caused by a pre-natal or post-natal imperfection of development or growth, either congenital or acquired by circumstance or habit; this developmental deficiency being one of nutrition or innervation, or both.

That there is generally a difference if not an inequality in the portions at least of the two sides of the body is a matter of common observation, as when the beauty at the photographer's has a best side to present to the camera. The difference in the length of the limbs, the irregularities of sight and hearing, and of cerebral action, if such theories as Oliver Holmes, of the squinting brain be correct, are instances of this, while the records of the autopsy table confirming them, make defective development the most plausible explanation of this symmetrical exhibition of disease.

To pass to a consideration of the laryngeal cases and their significance, we find of the 200 cases of pulmonary tuberculosis 30 per cent. had throat disease,

which percentage was made up to 20.5 per cent., tubercular, 9 per cent. simple chronic laryngitis and two cases of syphilitic ulceration.

We do not find in the laryngeal disease any pronounced evidence of one side being attacked earlier or more violently than the other, both being generally or so nearly equally involved as to make any distinction, as in the nasal disease, impossible. This is confirmed by clinical experience, which teaches that the first signs of laryngeal tuberculosis are most commonly found in the commissure and when the arytenoids are involved they are usually simultaneously swollen.

Only six cases in all are noted in which the disease was markedly more severe, or began on one side in preference to the other. Of these, one had the left side of the throat, nose and lung most affected, and one the right side. One the left side of the throat and the right side of the nose and chest. Two the right side of the throat and chest, the nose clear and one the left side of the throat and the right chest. These were all cases of tubercular laryngitis. In the two syphilitic cases, as in the chronic laryngitis cases, the disease was equally distributed on both sides.

The fact that the same side of the throat as that of the nose or chest is not especially involved, would tend to show that the idea of the disease spreading directly from one nostril to the lung of the same side can not be maintained, or that the symmetrical distribution of the nasal and pulmonary disease can be explained by any deflection or obstruction of air currents through one nostril. Thus the theory of developmental deficiency receives additional support by exclusion of these possible explanations.

So far then the facts indicated by this analysis of 200 cases of pulmonary tuberculosis are that 28 per cent. had nasal disease, 30 per cent. laryngeal and 11.5 per cent. both; 20.5 per cent. had tubercular laryngitis, while of the nasal cases it is hard to determine how many were tuberculous; only a very few were noted as positively tuberculous and probably not many more were so, confirming the opinion of most rhinologists that nasal tuberculosis is comparatively rare.

The practical relation of nasal to both laryngeal and pulmonary disease is doubtless chiefly in causing mouth breathing and so catching cold, in diminishing pulmonary expansion and complete aeration; in reflex irritations, and in direct annoyance and consequent mental worry and depression in extreme cases. The moral is to relieve the stenosis by operation when needed, and the rhinitis by cleansing, stimulation or astringency, as radically as the patient's health permits, and the case requires also to examine the nasal and naso-pharyngeal passages, especially whenever the voice is affected or the throat complained of, as the cause of laryngeal symptoms often lies in the nose or naso-pharynx. At the same time it must not be forgotten that rhinitis is frequently kept up, or when there is also a permanent stenosis, aggravated by the patient's general condition, especially with respect to digestive disorders, gout, rheumatism and syphilis.

The practical lesson of the connection between chronic laryngitis and pulmonary tuberculosis is to cure the former as soon as possible, especially in order to ward off danger of secondary tuberculosis by the sputum infecting the diseased mucous membrane as it passes over or lodges on it. The tone and

strength of the voice should always be observed, and it is doubtless best that in all cases irrespective of these warnings a laryngoscopic examination be made, as experience tells one that many cases are overlooked in an early stage when treatment would be most valuable.

In considering the pathologic connection between laryngeal and pulmonary tuberculosis, the explanation is still in doubt among most laryngologists. Many excellent authorities believe that laryngeal tuberculosis is rarely if ever primary, and I myself have never seen a case without accompanying pulmonary signs, though I quite believe in its possibility while some deny it. Further, Heryng and others believe that the laryngeal affection always or commonly results from infection by the bacillary sputum from the diseased lung, through the surface of the laryngeal membrane, while others think, and with them I agree, that while this may occasionally occur it is rare, and that the bacilli attack the membrane from beneath being conveyed often perhaps through the course of the bronchial glands. My reasons for believing this are first, that in Colorado we see very few cases of tubercular laryngitis arising after arrival, yet as the last stage of consumption is especially prolonged in this climate, during which time there is usually a copious and constant stream of bacilli laden sputum being passed through the larynx for a much longer period than usually occurs at sea level, we should naturally expect many cases. Further the ulceration usually follows upon the raising up of the membrane by a tuberculous mass from beneath which is extruded through the ulcer, and then if the patient is fortunate and well treated it will heal. The ulcers rarely presenting the appearance of spreading on the surface like lupus but rather appearing like the necrosed tissue over a boil, through which the contents of the boil afterwards escape.

While recognizing the added danger and so increased mortality from the combination of laryngeal with pulmonary tuberculosis, I am glad to have added my clinical experience¹ to the evidence which shows that laryngeal tuberculosis while always grave is not necessarily fatal, but that it demands and well repays by mitigation always, and occasionally by cure, thorough competent local treatment. My statistics further proving that high climates, when equally good local care is used, are especially suited for the treatment of laryngeal tuberculosis, instead of being contra-indicated as was formerly believed, which is shown by the frequent healing of the throat lesions, even when death ensues from the pulmonary or other tuberculosis.

EMASCULATION AND OVARIOTOMY AS A PENALTY FOR CRIME AND THE REFORMATION OF CRIMINALS.

Read before the Illinois State Medical Society, May 15, 1894.

BY ROBERT BOAL, M.D.

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Political and social economists and humanitarians within the past third of a century have spent much time, thought and effort upon the best and most effective means of punishing crime and reforming the vicious and criminal classes of society. The

¹ Therapeutic Gazette, Nov. 15, 1893.