

The next, and last, aspect of the question that I shall consider is, What shall a university do for the support and encouragement of investigators within its walls? The primary function, in my opinion, of a professor is to teach; but with certain exceptions of rare merit, it is necessary for his reputation and influence that he should do original work. The first duty of the university to him is that he should not be overburdened with teaching. The next problem is, how the expenses of his work are to be met. These must vary with the department. For some lines of research distant expeditions are requisite, necessarily so costly that they can hardly be provided for otherwise than by national or private munificence. But putting these aside, and speaking more particularly of biological and morphological work, the problem reduces itself to this: what help shall the university give to the investigator, (1) in the matter of providing the material, namely, the subject matter for the study; (2) the machinery and reagents for the work; (3) the means of illustrating it, and finally, of publishing the paper. The last need is not urgent on account of the great number of journals of all kinds, but it exists in isolated cases. Till comparatively recently the position of universities has been much like that of the Pickwick Club, which when sending its honored founder and his companions on their travels saw no objection to every member paying his own bills. But professors for the most part suffer from "that perpetual lack of pence which vexes public men," and those who are not yet professors are, of course, vexed the more. Is it fair that a serious tax ever increasing in direct ratio to his merit should be laid on the investigator, especially as the university profits in no small degree by his success? I am sure we shall all agree it is not. But then difficulties present themselves as to how this help is to be given and distributed, assuming that the university admits the claim. Who are to be the chief beneficiaries? The most distinguished or the most needy? The oldest because of his years? Or the youngest because of his youth? And again, is it just that the university should furnish large sums for bringing out papers of unknown merit? It seems to me that the most feasible way, if the money can be procured, is to place a sum in the hands of the professor at the head of each scientific department, to be spent for the good of that department, including publication, according to his discretion, or his lack of it. Should the latter be painfully apparent, the resulting unpopularity will surely be irresistible, and thus there will be a check on a system which may at first seem too arbitrary.

Original Articles.

EPISTAXIS.¹

BY FREDERIC C. COBB, M.D., BOSTON.

THE subject of this paper is too much within the experience of all physicians to allow me to hope that I can present many points of novelty and interest not already known to you all. Yet the causes and treatment of this affection are not uniformly considered by the general practitioner and specialist, and each may learn from the other in his treatment of the disease.

¹ Read at a meeting of the Boston Society for Medical Improvement, November 6, 1899.

Bleeding from the nose, to quote from Thomas Watson, may be a warning, a remedy, or a disease. The first two statements, that it is a warning and a remedy, used, I think, to be the idea of the older practitioners, when blood letting, either natural or artificial, was regarded as a panacea for all things. The last part of Watson's statement, that it is a disease, has obtained much more of late years, and is a natural reaction against the earlier practice of blood letting already spoken of. It should in reality be called a symptom, it seems to me, either of some local lesion in the nose, or of some general disease elsewhere. It may be said that cases of nose-bleed are sometimes idiopathic, but as our knowledge of pathology grows, we find fewer instances of idiopathic and more of causative elements previously overlooked.

The causes of nose-bleed may be divided into local and general. Perhaps the commonest local cause of epistaxis is deformity of the nasal septum. The mechanism of the bleeding in such cases is simple. A sharp anterior deviation of the nasal cartilage throws it broadside to the air current, and particles of dust and grit lodge upon the delicate mucous membrane, causing it to become inflamed and covered with a coating of crusts and scabs. These soon become such an annoyance to the patient that he scratches the surface with his finger nail or handkerchief in order to rid himself of the discomfort, thus causing a small ulceration which reaches some time later a blood-vessel and hemorrhage results.

Examination of the nostril shows the vessels on the anterior part of the septum dilated, and if the bleeding point be found, it is within reach of the finger nail of the patient's hand. Ulceration may, however, occur without the use of the finger nail where the surface of the septum is sufficiently inflamed. Epistaxis may occur further back on the septum, but this is more uncommon, and is, it seems to me, more apt to be a symptom of some graver disease. Of the more important local lesions causing epistaxis, fracture is perhaps the most common, and this may occur at the junction of the septum and cartilage, or from the driving in of the nasal bones. Fracture or dislocation of the cartilage is the common cause of bleeding in boxing. Of all lesions the new growths of the nose cause the most severe hemorrhage, especially the angiomas and angiosarcomata. Death has resulted from the former in cases reported by Panas and Richet, but fortunately such cases are rare. In my experience few non-malignant tumors cause bleeding except the angiomas, and even in the malignant growths, except those mentioned, hemorrhage of any severity is unusual. Foreign bodies in the nose seldom cause bleeding, although allowed to remain in the nostril for years. Of the constitutional diseases leading to epistaxis we have first plethora, a somewhat vague expression, and anemia. Epistaxis from plethora I have never seen, although it seems too well known to be doubted. Epistaxis from anemia must be very infrequent in the absence of any local lesions, and in both plethora and anemia one would require proof that no local lesion had existed. If we consider the hemorrhagic diathesis is it not fair to assume that some local break in continuity must exist, as it does in other parts of the body? This of course need be but slight in the nose, as, for instance, the local removal of crusts and scabs from the anterior nares. When we consider that it is only of late years that the nose has been carefully examined, we can easily suppose that slight nasal lesions have often been over-

looked in the report of cases. Curious cases of vicarious menstruation by bleeding from the nose, when the normal channels have been blocked, are recorded, but are of purely physiological interest. Venous hemorrhage from obstruction of the jugular, due to tight stocks or neckwear, are reported, but are to be taken with some reservation. Such stocks were worn by an enormous number of people at one time, and yet it is not claimed that any large number of persons suffered from epistaxis as a result.

Syphilis, phthisis and alcohol are given by Browne as predisposing causes. The bleeding in phthisis is rather apt to take place in the posterior nares, and blood crusts seen there are often the only lesion to be found. Epistaxis in syphilis is not frequent, and I have only records of two cases, both from septal ulcerations and associated with necrosis. One of these had also periostitis of the nasal bones.

But there is one constitutional disease which, in my experience, at least, has been associated with epistaxis very frequently, and that is nephritis. This, although mentioned with many others by the books, I do not find emphasized as a common cause. Hemorrhage resulting from this cause is usually severe, since the disease affects the walls of the arteries. In order to put this point in a stronger light I will cite two cases:

CASE I. C. D. September 26, 1896, had so severe a hemorrhage from the right nostril that the posterior nares were plugged by the family physician. Twenty-four hours later the plug was removed, but the bleeding at once recurred, and he was forced to replace the plug, which this time was allowed to remain in position for five days. On its removal the bleeding again recurred with as much violence as ever and it became necessary to resort to a third tampon to stop it. I saw the patient after the third tampon had been in position for forty-eight hours. Both anterior and posterior plugs were very foul and were carefully removed, and a ten-per-cent. solution of cocaine on absorbent cotton was placed in the anterior nares. After this had been allowed to remain in the nostril a few minutes it was withdrawn and the nostril carefully examined. A small projecting point on the septum was found and carefully cauterized with a crystal of chromic acid. No further hemorrhage occurred for two weeks, when on cleaning the nostril I accidentally loosened a scab caused by the chromic acid and a quite severe hemorrhage was the result.

This was promptly checked by a plug of cotton soaked in cocaine for a few minutes and a second cauterization, after which no bleeding occurred. As the bleeding point was well back on the septum out of reach of the finger, and as the hemorrhage was severe enough to be evidently arterial, I asked for an examination of the urine, which showed one-half per cent. albumin. Two years afterwards he died of nephritis. The bleeding had been the first sign by which attention had been called to the nephritis.

CASE II. D. T., age fifty-four, came to me March 13, 1894, saying that he hawked blood from the posterior nares; lungs negative; no signs in nose or throat to account for hemorrhage. Examination of the urine showed considerable albumin. Nearly a year and a half later I heard that he was dying of Bright's disease.

Other such cases could be cited, but they only serve to show that the urine should be carefully examined in cases of severe nose-bleed. That milder

cases may also be associated with the uric-acid diathesis I am sure, and I could cite examples where this has been the case. Enough has been said, however, to point out that cases of epistaxis should receive a good general examination, as well as a local one. The symptoms of epistaxis are too well known to be gone into at any length. Of course, where the origin is the anterior part of the septum, the bleeding is from the nostril corresponding to the lesion. When the bleeding occurs in the mouth the diagnosis of the locality of the lesion is not so evident. It is often a question, in such cases, whether the hemorrhage comes from the lungs or from the nasopharynx or nose. This question is often not easily settled and can only be decided by the presence of a bleeding point in the upper air tract. Sometimes a very sharp deviation in one nostril may determine the direction of the blood backward to the throat, instead of forward to the meatus.

The presence of bloody scabs and crusts in the nasopharynx is fairly good evidence of nasal bleeding, even if no blood has been thrown out of the nose. If there has been severe coughing or vomiting it is possible that the nasopharynx could have been filled with blood from below.

Prognosis.—Experience shows that epistaxis is liable to recur if the exciting cause is not eliminated, just as bleeding in any other locality repeats itself. Even if the vessel causing the trouble is blocked, others become diseased and break, with the same result. Where the bleeding is due to erosion of superficial vessels, caused by crusts and ulcerations of the cartilaginous septum, destruction of the larger vessels and removal of irritation caused by the scabs and crusts, and directions as to how to prevent their again forming, will prevent recurrence. In cases due to a more central disease, that disease should be treated.

Treatment.—The treatment of epistaxis varies much with the severity of the attack. Mild forms may be arrested by simple measures, such as ice to the side of the nose, cold to the spine, hot or cold water injections into the nares. After operations the patient is usually advised to try, in case of bleeding, ice-cold water injected into the nose. Most authors advise a preliminary trial of these simple measures before resorting to the more unpleasant ones. Hot mustard foot baths, ligation of the extremities, pressure of the facial artery, have also been recommended. Practically the most satisfactory procedure is to examine the septum with a strong light concentrated by a head mirror, and, if possible, ascertain the bleeding point on the septum.

The practical difficulties in the case are usually the great amount of blood and clots, which make the examination difficult. For this reason cocaine on pledgets of cotton should be introduced. The solution used should be from five to ten per cent., and should be left in from five to ten minutes. If this fails to stop the bleeding, suprarenal capsule may be used. Until about a year ago this latter agent was almost unknown. Its effect on the blood-vessels of the mucous membrane is almost magical, and it does not seem to injure the delicate lining of the nose in any way. This solution may be prepared from the tablets, or from powders, in about a ten-per-cent. solution. Its only disadvantage when used in operations is that subsequent bleeding may occur.

Pledgets of cotton soaked in a five- to ten-per-cent. cocaine solution should be first tried. These have two advantages—one of contracting the bleeding vessels in the mucous membrane, and the other that of increasing the lumen of the nostril for purposes of packing and making that process less painful.

If a bleeding point is found on the septum, it should be touched with a crystal of chromic acid fused on a probe, or by the galvanocautery heated to a dull-red heat. If this should fail, or a bleeding point cannot be found on account of the bleeding, suprarenal capsule, prepared as above described, in a ten-per-cent. solution may be used, and the bleeding point again searched for. If both these remedies fail, packing must be resorted to, and a few words with regard to the manner of packing may not be amiss. The method of packing, as usually practised, has several disadvantages. This method consists in plugging the posterior nares with a sponge drawn up into the nasopharynx by a stout string, which has been passed in by means of a Bellocq's canula, or a catheter. The anterior nares are plugged for a half inch or so with cotton or gauze. This method depends for its success on rendering the pressure of the effused blood in the nose equal to the arterial pressure. It takes no account of the bleeding spot itself. Its disadvantages are the very great discomfort to the patient of the posterior plug, and the possibility of injury to the ears by its pressure on the Eustachian openings, and the introduction of germs through the packing, which soon becomes foul. It is unnecessary, at present, since with cocaine we can introduce antiseptic gauze in long narrow strips as far as the posterior nares, and beginning at the bottom by strip on strip until the nostril is well packed. The gauze should be introduced with a pair of long forceps, or a notched probe, the first piece being laid along the floor. The gauze should be passed in about three inches, the distance to the posterior nares being measured by a finger in the posterior nares, if necessary. The gauze should be all in one strip for purposes of removal afterwards. The Eustachian prominence is thus left free. The packing should be left in twenty-four to forty-eight hours, and it cannot be too strongly emphasized that it should be put in with great gentleness, and very carefully withdrawn. It will be found that after the gauze has been thoroughly moistened with nasal secretion it can be withdrawn with less danger of pulling off the clots formed by the blood, and thus renewing the bleeding.

To sum up briefly: The causes of bleeding from the nose may be local or general. The local causes are more apt to be ulcerations of the blood-vessels, resulting from scabs and crusts on the septum. These may be caused by irritation, as in deflected septum, by foreign bodies (although this is rare), by new growths, and especially by operations for sarcomata. The general causes are plethora and anemia, the hemorrhagic diathesis, acute febrile diseases, vicarious menstruation and disease of the kidneys, syphilis, phthisis and alcohol. It seems to the writer that the occurrence of severe bleeding should lead to an examination of the kidneys as a cause.

Treatment.—Cauterization of the bleeding point on the septum with chromic acid, or galvanocautery, after cocaineization. Suprarenal extract to be tried, its only disadvantage being the possible renewal of the hemorrhage from the reaction of the blood-vessels.

Plugging when resorted to should be done by strips of gauze introduced along the floor of the nose by means of long forceps, the Eustachian prominence not to be occluded. Packing should be left in twenty-four to forty-eight hours, and withdrawn with the utmost care.

APPENDICITIS IN A HERNIAL SAC.¹

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NOT very long ago I was called to see a patient of Dr. W. L. Watson's, in Lincoln, Mass. She was seventy-nine years old, not vigorous but wiry. The day before, she began to have severe pain in the right groin, some abdominal pain and nausea, accompanied by much general prostration. Her bowels had been more constipated than usual for several days, and she had been eating less. Her tongue was thinly coated, pulse but little more rapid than normal, temperature 101°, and she had attempted to vomit several times.

On examination we found a tender swelling in the right groin, half-way between the pubic and iliac spines and just below Poupart's ligament, about the size of a walnut. It was doughy to the touch, not very movable, and gave no impulse on cough. The skin was not reddened. Six years before, she noticed this "lump" after some extra exertion, but it had never troubled her beyond being occasionally rather tender to pressure. It was not in the least tympanitic, and the abdomen was nowhere tender except just above Poupart's ligament on this side. Thinking it probably an old omental hernia suddenly strangulated, gentle taxis was tried and quickly given up as causing intense pain and doing no good. A large poultice was applied and she was made as comfortable as possible. Next day the symptoms were all decidedly worse, the swelling larger, and she requested operation to get rid of the pain. Considering her age and great prostration I began with local anesthesia, using the stronger Schleich solution. There was much fat under the skin, and there was great difficulty in isolating anything at first, but finally a mass of fat was lifted out, the size of a small hen's egg, which was pretty solid and which had a strong cord-like structure as a pedicle leading down to the femoral ring. My first thought was of a prolapsed ovary with tube attached, but as my thumb penetrated a small cavity, and about a teaspoonful of pus, with characteristic odor, escaped with some small hard masses, I decided that I had an inflamed herniated appendix. It was tied and cut off close to the ring, to which it was tightly adherent. The pain caused by manipulating the pedicle was so intense that a few whiffs of ether were given. The wound was carefully washed out and sewed up with gauze drainage down to the stump, but there was a slight infection of the wound, doubtless from the rupture of the sac, which disappeared in a few days, and her recovery was uneventful otherwise. Three inches of appendix had been removed. The small, hard masses had the exact size and shape of raisin seeds, and with the story of a plum pudding a few days before, I thought I had a double rarity, but Dr. Mallory pronounced them fecal masses.

Hernia of the appendix alone is unusual, though hardly to be called rare. Two lists were published in

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