XLV.

INJECTIONS OF BLOOD SERUM FOR HEMORRHAGE, EITHER SPONTANEOUS OR POST-OPERATIVE.

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Hemorrhage after tonsillectomy is always unpleasant, and when it becomes so severe as to endanger the life of the patient, there are very few other complications so alarming and which so tax the resources of the operator.

The following cases are reported to show the probable value of injections of blood serum when other methods fail, or when the patient is so reduced from loss of blood that the administration of another anesthetic for the purpose of suturing the pillars in tonsillar hemorrhages does not seem advisable.

CASE 1. Boy, aged 6 years. Removal of tonsils and adenoids. The tonsils were removed by dissection and snare, the method employed by most operators at the present time, and the adenoids in the usual way.

There was very little bleeding during the operation, and when it was completed firmly rolled cotton tampons just filling the tonsillar fossa were pressed firmly into the cavities and held there for a few moments. This stopped the oozing of blood promptly, and in fact during the past fifteen years, since this procedure has been employed by the writer, it has rarely failed to check all immediate hemorrhage, and probably prevents secondary hemorrhage. The cotton tampons can be either used dry or may be dipped in pure peroxide.

The operation was performed in the morning and there was apparently no bleeding during the day, but in the early evening the boy vomited an enormous amount of clotted blood followed by a fresh hemorrhage.

The boy was so hard to manage and in such a bad general

condition that it was difficult to determine where the hemorrhage came from. But after the exercise of a good deal of persuasion and tact a fairly good view of the throat was obtained, and it appeared that the bleeding came from a point low down in the right tonsillar fossa. Pressure with the finger wrapped with gauze and with cotton tampons soaked in peroxide and adrenalin was used and after a time the hemorrhage stopped. No spurting vessel could be seen. During the night the writer was again called for another alarming hemorrhage. The nurse saved the blood which again filled a large basin. While pressure was again employed the patient was given 5000 units of diphtheria antitoxin, the normal blood serum not being at hand, and this was repeated in two hours.

After the first injection the hemorrhage appreciably lessened and after the second stopped completely. Two more injections of the same amount of antitoxin were used, however, and there was no return of the bleeding.

This may have been a case of hemophilia, because on questioning the mother, who was a rather ignorant woman, she said that there had been other cases of severe hemorrhage in the family after extraction of teeth and other trivial wounds. The boy made a good recovery.

CASE 2. Mr. P. D., lawyer, aged 44 years. Has occasionally been under treatment for slight attacks of acute pharyngitis. His tonsils are slightly enlarged. On the 18th of January he came to the office suffering from one of his usual attacks. This attack differed from the others as the tonsils were also slightly inflamed. He was given a simple astringent gargle, and was told to return to the office if the throat did not clear up. I did not hear from him after his visit to the office, but on the fifth day after that, his family physician asked me to come to the patient's home as soon as possible.

The patient was sitting up in bed breathing with great difficulty. On examining the throat the entire pharynx, soft palate, uvula, tonsils, pillars, and in fact everything that could be seen, was so tremendously edematous that very little air was able to reach the larynx.

With the exception of a few small spots on the tonsils there was no deposit anywhere. Free incisions were made in three or four parts of the edematous area and a considerable amount of serum escaped, but no pus.

There was a good deal of infiltration of the tissues of the neck, and on the following day there was a board like infiltration of the entire neck, with a good deal of swelling.

The difficulty in breathing, which had been slightly relieved by the incisions on the preceding day, was as bad as ever, and on inspection of the throat the edema was just as great. All the tissues were so tremendously distended that they looked like an inflated toy balloon. Four free incisions, as low down in the pharynx as possible were again made, with another free discharge of serum, but no pus and little bleeding. An ice bag was kept around the neck, cracked ice was used in the mouth and an iced adrenalin spray fairly continuously. The incisions again relieved the breathing to a considerable extent.

About an hour after getting back to my office I was told to come again immediately as the patient was having a severe hemorrhage from the throat. I was shown a large basin full of blood, and within ten minutes, after coughing slightly, he lost fully as much more.

An examination of the throat was made as soon as possible, but the origin of the hemorrhage could not be determined. There was no blood coming from the incisions at the time.

The patient was immediately given 10,000 units of antitoxin and the following morning 20 cc. of antistreptococic serum was injected, as cultures taken after the incisions were made showed almost a pure streptococic infection. From this time on there was no further bleeding. The great edema of the pharynx persisted for nearly two weeks in spite of almost daily incisions. At no time was there any pus obtained. The edema of the pharynx as well as the infiltration of the tissues of the neck slowly subsided, but it was nearly two months before the patient was strong enough to get up. Albumin and casts had been almost constantly present in the urine, and for a month the patient ran an evening temperature running from 100 to 103.

So far as the writer is concerned this was a somewhat unique throat condition, and must be similar to the severe pelvic edemas sometimes complicating streptococic infections. The board-like infiltration of the neck suggested Ludwig's angina, but at no time did the condition go on to suppuration, nor was there any involvement of the floor of the mouth. A tracheotomy did not have to be performed, although for two weeks during

the height of the attack the necessary instruments were at hand every day.

CASE 3. The writer was called three weeks ago to see a woman, aged 50 years, who had been having a nasal hemorrhage lasting with few intermissions almost the entire preceding night.

The family physician had inserted a tampon, but the hemorrhage had not been controlled. The tampon was carefully removed, but the hemorrhage was so profuse that the bleeding point could not be located. Another tampon soaked in adrenalin was inserted, but did not check the hemorrhage to any extent. The patient by this time had lost a large amount of blood, and as soon as it could be secured, was given an injection of 10 cc. normal blood serum (horse). This was given late in the afternoon and within a short time the bleeding lessened.

Another injection of 10 cc. was given during the night, with complete control of the hemorrhage and no recurrence after the removal of the tampon.

I do not think there is any doubt that the serum had a prompt effect in this case. The hemorrhage was certainly not controlled by packing and other usual procedures.

CASE 4. Boy, aged 8 years. Had a severe acute tonsillitis followed by an acute suppurative otitis media. The boy's parents lived in the country and did not pay any attention to the ear condition, allowing it to go on for several weeks.

A physician was then called to see him from Albany, and sent him to the Child's Hospital, where he was seen by the writer. The boy was in extremely bad general condition with an extensive mastoid involvement on the left side. His throat was still congested and there was a profuse discharge of pus from the left ear. Temperature 104° F. After being admitted to the hospital the boy had a chill and vomited. The mother stated that he had been having sweats and chills with fever every night for two weeks and some vomiting.

A mastoid operation was performed the morning after he was admitted to the hospital, and while the boy had an epidural abscess and involvement of the entire mastoid process, the lateral sinus after being uncovered seemed to be normal. Blood count before operation showed a leucocytosis of 15,000.

The mastoid wound was left open, that is a good part of it,

and on the following day the boy's condition had greatly improved. He did not vomit again, and with the exception of a slight chill after the operation, his chills and sweats also stopped.

Temperature dropped to 100° F. and his condition improved in every way, but on the third day a severe hematuria commenced, which increased to such an extent that the urine contained a large amount of blood each time. He was put on a diet but became so weakened from loss of blood that we decided to try injections of serum. Antitoxin was used, 5000 units being given each time. After the third injection the urine commenced to clear, and after the fourth the bleeding stopped entirely and did not return.

The boy also made an uninterrupted recovery so far as the mastoid condition is concerned.

He remained in the hospital four weeks and I heard recently (six months after) that he was entirely well.

The question of hemorrhage after tonsillectomy is a particularly interesting one, and is receiving more attention since the radical tonsil operation has been performed.

Most men are agreed now that we really see fewer serious hemorrhages after tonsillectomy than we used to after tonsillectomy.

There are a few points which are probably not new but which have come to the writer's attention in tonsil operations.

After an apparently complete tonsillectomy, a small mass of tissue is sometimes seen low down in the tonsillar fossa at the extreme base of the tonsil. This is entirely fibrous tissue and does no harm if left; in fact it is wiser to leave it, because in the writer's experience some postoperative hemorrhages result if attempts are made to completely remove this.

Weil (quoted by Class*), whose researches in hemophilia were so largely responsible for the present status of serum therapy in this disease, reported in 1907 a series of four cases of hemorrhage from different sources treated with serum.

The only case of interest in connection with the writer's paper, was one of febrile polyarthritis with rapidly developing subcutaneous hemorrhages, epistaxis and hematuria.

Patient was treated with intravenous injections of 15 cc. of

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*Serum-Therapy in Purpura Hemorrhagica. The Archives of Internal Medicine, Vol. 6, No. 2, August, 1910.

fresh beef serum, and after one mild relapse was discharged cured.

In conclusion, the writer believes that injections of blood serum for either spontaneous or postoperative hemorrhage appear to be of the greatest value.

The control of hemorrhage after the use of serum cannot be regarded as a mere coincidence, because this method succeeds when the usual methods for control of hemorrhage sometimes fail.

Birkett (personal communication) has recently had a case of uncontrollable nasal hemorrhage in a woman aged 65 years, which could be perfectly controlled with normal horse serum.