BLOOD INFECTION OF THE SUBMAXILLARY GLAND.

BY

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AN acute suppurative inflammation of the salivary glands is in most cases an ascending infection from the duct, predisposed to by a diminished flow of the secretion, by fever, and by a depressed general condition. So is it seen in most post-operative abdominal cases. The condition is usually classed as an ascending infection when there are obvious signs of the duct being the source—as, for example, a bright red protrusion of the duct mucosa or a string of cloudy mucus or pus exuding from the duct. In this type of case the primary symptoms are those of recurring duct infections.

A recent writer states that there is no absolute proof that a blood-borne infection is an occasional cause of acute suppurative inflammation of the salivary glands. The following case seems to be worth recording as most probably a blood-borne infection supervening on a duct obstruction inflammation.

J. S., aged 37, was wounded on September 14th, 1914, by a shell through the right elbow-joint. The joint was shattered, and sinuses discharged for several years without intermission. In March, 1915, the wound healed, the joint having become ankylosed at a right angle; the forearm was also fixed. The wound after this frequently—every few months—was the site of an acute inflammation and abscess formation, but at no time were there any definite sequestra visible on x-ray examination or palpable by probe. About 1920 he began to notice that at every acute exacerbation of the gunshot wound his right submaxillary region was the site of a tender swelling which caused pain on moving his jaw, and headaches. He consulted his doctor at this time about it and was advised to have his teeth removed. He had a complete clear-out of both upper and lower jaws, but without any benefit.

On July 26th, 1923, I saw him in consultation. He complained of a tender swelling under the right lower jaw, pain on eating, and headaches, the present attack dating from May, 1923, when he had an acute flare-up in the elbow-joint. The pain is caused by the actual movements of eating, but he states that the sight of food makes no appreciable difference either in the pain or in the size of the swelling. The present swelling came on just before he had an abscess in his elbow incised in May.

There was a rather hard and nodular swelling about the size of a walnut in the right submaxillary triangle; it was freely movable under the skin and on the underlying tissue, but was slightly tender. A string of pus was exuding from the oral exit of the submaxillary duct. It was removed (1½ in. long), and a piece of silkworm gut passed almost the length of the gland, but no obstruction or anything suggesting stone was felt. X-ray examination showed no evidence of stone in the submaxillary gland.

The elbow-joint at this time showed a sinus of about 1 in., but with no palpable dead bone. There was no acute inflammation in this region. The cast (string of pus) from the duct was retained in a sterile test tube and bacteriologically examined. Pus was also taken from the sinus in the arm. The report was as follows: "In each case there was present a Gram-negative bacillus fermenting glucose with the formation of acid but no gas and not liquefying gelatin in two days." The treatment advised was excision of the submaxillary gland.

On September 13th, 1923, under a general anaesthetic the gland was carefully dissected and removed. There was extensive fibrosis around, the natural sequence of the recurring attacks of inflammation, making the operation somewhat more difficult and rather obscuring the landmarks. The wound healed by first intention.

On sectioning the gland it was most interesting to find a small calculus about the size of a pea embedded in a part of the gland which had become much fibrosed.

Inflammation of the salivary glands is usually divided into three classes—the primary inflammation or mumps, the ascending duct infection common in abdominal conditions, and the third that round a calculus. The case recorded is typical of the third class, and would be ordinary but for the interesting history and sequence of symptoms. It would appear that this is a blood-borne infection from the elbow wound, though it would have been interesting to know whether the same organisms could have been recovered from the blood.

In reading some of the literature on inflammation of the salivary glands it is striking to note in the histories of several cases the occurrence in the obstructive type of another infective source in the body. For instance, in one case recorded by Blair and Padget the swelling followed the partial extraction of a tooth, and recurred six months later when the roots which had been left and were septic were removed. Another case followed on tonsillectomy. In both these cases the so-called focal infection was situate in

the mouth, so that it was difficult to be sure that it was a blood infection; but in the case recorded there seems little doubt that the bacillus causing the bone trouble had also an elective affinity for the submaxillary gland, and that the infection was by the blood stream.

AMIDOPYRIN IN THE TREATMENT OF MEASLES.

BY

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IN a trial extending over more than a dozen years I have come to the conclusion that amidopyrin,* in the treatment of measles, gives results which show it to have a specific curative action. If given at the first appearance of the rash the results are as follows:

1. Reduction of temperature to normal or nearly normal within twelve hours. This effect is permanent.

2. The development of the rash is sometimes entirely, always partly, inhibited; if it has already affected the face, it will come out in only scanty spots on the trunk and extremities. The spots which appear after its administration, moreover, are pale and evanescent. In one case I succeeded in preventing the appearance of the rash altogether in an undoubted case of measles in a family other members of which were already affected.

3. The most important effect to the sufferer is an immediate euphoria; children who in the evening are prostrated and suffering great distress are cheerful and happy on the following morning. The testimony of adult sufferers is convincing on this point.

4. Cough, coryza, and conjunctivitis all clear up within a day or two.

The average duration of the attack from the first show of the rash in untreated cases or cases treated by other methods is from two or four days; I have never seen any serious or distressing symptoms in those treated by amidopyrin after the first twenty-four hours. It therefore seems to me that this drug acts as promptly in measles as quinine does in malaria, or the salicylates in rheumatic fever. A drug which checks the onward march of the symptoms, and particularly the development of the rash, surely has the right to be called a specific remedy.

The dose for adults is 12 grains three times a day, with or without Dover's powder to alleviate the cough. For children, I have employed the following formula:

$$\frac{(\text{age} + 1) \times \text{dose}}{24}$$

I never have seen any untoward effects from the drug, and so larger doses may be given if they seem indicated.

The following are my last seven consecutive cases treated as above.

Case 1.—D. F., a girl aged 9, felt ill on March 7th, 1924. Cough developed on March 9th. The following day her temperature was 104°. There was a typical roseola on face and neck. I gave amidopyrin 4½ grains, pulv. ipecac. co. 2 grains, thrice daily. On March 11th the temperature was 99.2°; the patient was free from pain and comfortable; rash scanty and pale on trunk and limbs. On March 12th the temperature was normal and the patient absolutely well.

Case 2.—B. C., a girl aged 3. Illness began on March 11th with cough, sneezing, and conjunctivitis. Probable diagnosis, measles. At 2 p.m. the following day the temperature was 100.8°, and there was a characteristic rash over the face and shoulders. She was given amidopyrin 1½ grains, pulv. ipecac. co. 3/4 grain, thrice daily. On March 13th, at 5 p.m., the temperature was 98.6°; the rash had not spread further and had faded. The child was comfortable and was playing when I saw her. Cough and conjunctivitis slight.

Case 3.—H. S., male, aged 22, came home from Blackpool on March 31st with a temperature of 101°. He was seen at 8 p.m. The upper half of the body was covered with thick, deeply coloured roseola; there was a very scanty rash on the extremities. He complained of a distressing feeling of suffocation. Koplik's spots were numerous, and he had severe cough and conjunctivitis. He was given amidopyrin 12 grains thrice daily. On April 1st, at 11 a.m., the temperature was 99.2°. The rash had not spread; he was free from pain and had slept through the night (after several sleepless nights) because "he did not have to keep his attention on his breathing." At 7 p.m. the temperature was 98°. The following day the rash on the face had

* Amidopyrin is recognized in the *British Pharmaceutical Codex* as a derivative of antipyrin. It was originally put on the market under the trade name "pyramidon."

faded; it was pale but had slightly thickened on the trunk and was absent on the extremities. Temperature 97.4°.

Case 4.—H. M., a boy aged 10, was first seen at 7 p.m. on March 17th. He had a temperature of 102.2°, and post-aural roseola. He received no treatment on this day. On March 18th, at 4 p.m., there was a rash on the face and chest—very scanty on the extremities; temperature 101.4°; cough troublesome. He was given amidopyrin 5 grains, pulv. ipecac. co. 2 grains, thrice daily. The following day, at 11 a.m., the temperature was 98°; the rash had not increased on the extremities, and the patient was feeling well.

Case 5.—E. C., a girl aged 5½, was first seen on March 20th. She had been coughing and sneezing for four days. The temperature was 102° in the night of March 19th, when the rash first appeared. It now extended behind the ears, and on the face and forehead; it was scanty on the trunk, and very scanty on the extremities. Koplik's spots were present. Temperature still 102°. She was given amidopyrin 3½ grains, pulv. ipecac. co. 1½ grains, thrice daily. On March 21st, after three powders had been taken, the temperature had fallen to 97°; the rash had faded on face and forehead, and had not spread on the body. There was a slight cough.

Case 6.—E. C., aged 18 months, sister of the previous case. She had been coughing and sneezing since March 20th, and had a temperature of 101° to 102°. When first seen, on March 25th, at 12 a.m., the temperature was 103° and a few Koplik's spots were present. There was a typical rash behind and below the ears. She was given amidopyrin 1½ grains, pulv. ipecac. co. 1/2 grain, thrice daily. At midday on March 26th there was still some rash on the face, scanty on trunk, very scanty on extremities. Temperature 99.6°. The next day the temperature was 99°, and the rash had faded on the extremities and trunk. On March 28th the temperature was normal and the patient well.

Case 7.—A. C., aged 3, brother of Cases 5 and 6, in the night of March 27th-28th had a temperature of 101°. At 1 p.m. on March 28th it was 100°, and he was sneezing and had a little cough. There was a rash on the face. He felt well and his appetite was good. He was given 2 grains of amidopyrin thrice daily. At 11 a.m. on March 29th the temperature was 96.8°; the rash had not spread, except for two extensive confluent patches in the groins. The next day he had completely recovered.

As I have been unable to find any reference in medical literature to the use of amidopyrin in the treatment of measles I have thought my observations to be of sufficient value to bring to the notice of the medical profession. The early amelioration of all the symptoms promises a reduction in the frequency of dangerous complications, such as bronchopneumonia, and a parallel reduction of the mortality rate.

Memoranda :

MEDICAL, SURGICAL, OBSTETRICAL.

RETURN OF PULSATION IN THROMBO-ANGIITIS OBLITERANS.

THROMBO-ANGIITIS OBLITERANS is the name given by Leo Buerger to a disease, limited, as I believe, exclusively to male Hebrews, mostly of the middle period of life, and mostly immigrants from Poland, Russia, Rumania, and Central Europe.* Formerly I termed it "non-syphilitic arteritis obliterans of Hebrews." The disease usually commences in one of the lower extremities and is a cause—perhaps the most frequent cause amongst the male Hebrew population—of "intermittent claudication of extremities." I have had the opportunity of seeing a considerable number of cases in London, and in them when pulsation in an artery had once been lost I had never hitherto been able to verify its return.

M. M., a Russian Jew, was one of my first cases, and was demonstrated by me at the Clinical Section of the Royal Society of Medicine on December 13th, 1907, when he was 42 years old; I described the case, with references to several other cases, in the *Quarterly Journal of Medicine* (1916, ix, p. 289), soon after pulsation had disappeared from the radial artery at the right wrist. The trouble had commenced in his left leg about 1902. Red, tender, subcutaneous swellings, due to multiple foci of superficial phlebitis of the lower extremities, complicated the case from time to time since 1909, and there were periods of very painful ischaemic ulceration, when gangrene in one or other of the feet appeared imminent.

Of late the arterial disease has been apparently non-progressive, and recently when he was again temporarily in hospital under my care for a new trouble, which I regarded as a mild attack of gout at the base of both big toes, I found to my astonishment (May, 1924) that there was again fairly good pulsation in the left radial artery at the wrist. The gout soon subsided with small doses of sodium salicylate and sodium bicarbonate. He has like-

wise of late developed high blood pressure (the brachial systolic blood pressure is 185 mm. Hg on the right side and 192 mm. Hg on the left side), with a little albumin and a few granular tube-casts in the urine.

Regarding real or supposed return of pulsation in arteries that have become pulseless owing to thrombo-angiitis obliterans, Leo Buerger (*The Circulatory Disturbances of the Extremities*, 1924, p. 269) writes that return of pulsation had been reported in arteries which had been seemingly obstructed. He explains that pulsation cannot return in a really obstructed artery in this disease, but points out that dissections of amputated limbs have shown that the artery may be only more or less collapsed and that with improving circulation through collateral paths pulsation may become re-established, the blood flowing through devious channels in uninvolved territory. This might quite possibly be the correct explanation for the return of pulsation in the case here reported. There can, however, be no doubt that pulsation really has returned, for the patient was under observation in the hospital during about the first two weeks of May, and was again examined a few days ago.

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A CASE OF ONYCHO-GRYPHOSIS.

THE illustration shows the feet of a woman, aged 69, who was admitted to the Bedford County Hospital suffering from burns. All her toe-nails were found to be very much enlarged, especially those of the great toes. The nail of the left great toe was much thickened and curved so as to form nearly two complete circles and measured on its greater curvature 9 inches. The nails commenced to thicken at the menopause at the age of 49; since then she has been unable to cut them.

The nails of the four smaller toes were shed about once a year, and those of the great toes about every four or five years. They were removed whilst in hospital by soaking in a solution of soda. The nails have been sent to the Royal College of Surgeons Museum, London.

Bedford.

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STRANGULATED HERNIA IN AN INFANT OF THREE WEEKS.

THE case of strangulated inguinal hernia reported below was admitted to the Wolverhampton and Staffordshire Hospital on May 24th, 1924.

The patient, a boy 3 weeks old, was taken ill on the previous day with pain and vomiting, and the mother noticed that a swelling had appeared in the left groin. During the day the child vomited after each feed. On admission nothing abnormal was found during the examination except the swelling in the left groin; this was a hard, tender, ovoid tumour about the size of a pigeon's egg in the position of the external abdominal ring. The testicle on that side was not felt either in the scrotum or the inguinal canal.

Postural treatment was adopted for a few hours, but in view of the fact that a small blood-stained stool was passed, and that the abdomen became somewhat distended, it was decided to explore the swelling. The operation was performed by Mr. Howard Dent. The tumour proved to be a hernial sac containing much fluid, and a small knuckle of bowel which was constricted by the neck of the sac. The obstruction was relieved and the bowel returned into the peritoneal cavity. The sac, which was of the congenital type, was removed after ligation of the neck. Recovery has been uninterrupted.

Strangulated inguinal hernia at the age of 3 weeks is sufficiently rare to make the case seem worthy of note, and I am indebted to Mr. Howard Dent, honorary surgeon to the hospital, for his permission to make this report.

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* Indigenous cases occur in China (G. Duncan Whyte) and Japan (Koga), but I am not aware that any cases have been observed amongst the Chinese or Japanese in England.