pericapsular areolar tissue overlying the pharyngeal constrictor muscle. This injection blocks the tonsillar branch of the glosso-pharyngeal nerve. The second tonsil is then similarly injected. To allow time for the injection to take effect adenoidectomy is performed first. With practice the blocking can be performed in about one minute if a long needle—4½ in. (11.5 cm.)—is employed attached to a 10-ml. syringe.

For adults, and for adolescents of about 8 st. (50.8 kg.), pethidine is given as in the case of children, or as an alternative intravenously after induction is effected by thiopentone (about 0.5 g. 5%). If need be, fractional doses of thiopentone are added until the block takes effect. The Davis gag is inserted and nitrous oxide and oxygen (6 litres and 2 litres respectively), with a trace of trilene, are allowed to flow through the gag. No ether is used. Blocking infiltration is then performed by the surgeon. No laryngeal spasm has occurred during the injection.

Discussion

The combination of quinalbarbitone with pethidine was used by Poe and Karp (1948) as a basal narcotic for children. In this series smaller doses have been used. Induction with nitrous oxide, oxygen, and trilene makes the introduction of ether rapid and easy. Surprisingly little ether is required to allow the Davis gag to be inserted and the tonsils dissected.

Consciousness after the operation is regained within a period varying from a few minutes to a quarter of an hour. After a brief period of restlessness on awakening and a single act of vomiting, children relapse into sleep.

The feature of this method is that intubation for tonsillectomy becomes completely redundant, regardless of the age of the patient. However expertly performed, intubation is regarded by some as an additional hazard. Dingley (1943) points out the contraindications against intubation from the rhinological point of view. These are connected with the possible infliction of trauma to the structures encountered and/or spread of infection.

In addition, with the method employed the cough reflex is never absent during the operation. This is demonstrated by allowing blood to overflow into the larynx. To prevent this happening the table is tilted slightly downwards, thus obviating the necessity for throat packing, with subsequent soreness of the throat. Blood is mopped up by gauze swabs. Capillary oozing is scanty.

When infiltration is used the tonsils are moved by the fluid towards the midline and are easier to dissect because of the presence of the fluid in the capsule plane.

It has been stated that the chief objection to the use of local analgesia for tonsillectomy is the increased risk of sepsis. On the other hand, Morey (1943) performed more than 2,300 tonsillectomies under local analgesia alone, injecting into each side as much as 25 ml. of fluid without untoward results. It will be noted that the injection described here is paratonsillar and not intratonsillar; no adrenaline is used and the amount of fluid injected is small (a total of 4-5 ml. on each side). In this series of 137 cases healing of the tonsillar bed was unaffected, and the general recovery was not delayed.

Summary

A method of anaesthesia for tonsillectomy based on over 1,400 cases is described.

In young children premedication consists of quinalbarbitone and pethidine, producing a state of basal narcosis or adequate sedation. Inhalational agents (nitrous oxide and oxygen, trilene, ether) provide adequate anaesthesia in smaller concentration than otherwise.

In children of 10 and over and in adults the method is combined with the blocking of the lesser palatine and the glosso-pharyngeal nerves.

Advantages of the method are discussed.

Intubation for tonsillectomy is dispensed with in patients of all ages.

We wish to thank Dr. J. C. Blake, physician-superintendent, South-western Hospital, for his ready co-operation in facilitating our work.

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AORTIC OCCLUSION IN INFANCY

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Occlusion of the aorta is rightly regarded as a rare but highly fatal condition. Most recorded cases have occurred in adults suffering from auricular fibrillation, from bacterial endocarditis, or from a mural thrombus following myocardial infarction or associated with atheromatous changes. Gross (1945) has cited 37 cases of severe arterial occlusion in infancy, the most common arterial location being in the lower limb. Rothstein (1935) quotes two cases of saddle embolus in 10-day-old infants, following on umbilical sepsis.

The present case of saddle occlusion at the aortic bifurcation in an 11-months-old child appeared to show enough uncommon features to warrant recording.

Case Report

An 11-months-old male infant was admitted to hospital on December 21, 1951. Although premature at birth, he had developed and thrived consistently until his present illness. Six days before admission the child developed features of upper respiratory infection. He was seen by a doctor, who prescribed a cough mixture. His condition improved, but on the fifth day of illness he became very restless and irritable. He refused his feeds, and at this stage sulphadiazine was prescribed. At 10.30 a.m. the next morning the child's father noted that the right foot and ankle were white and cold.

On admission that afternoon at 3 p.m. he was an extremely ill child with an ashen-grey cyanosed appearance. His temperature was 102.4° F. (39.1° C.), pulse 140, and respirations 50. Examination of the chest disclosed no cardiac abnormality, but diffusely scattered rales were present in both lung fields, most prominently at the right base. The right lower limb was cold, limp, and deathly pale, with mottled areas of marbling extending from the toes to the middle of the thigh. The dorsalis pedis, posterior tibial, popliteal, and femoral arteries were impalpable on the right side. The right knee- and ankle-jerks were absent. The left limb was normal, all pulses being palpable, and all reflexes were present. A small area of ecchymosis, 2 cm. in diameter, was noted on the surface of the right elbow.

The child was placed in an oxygen tent and penicillin therapy was given to control the bronchopneumonia. The right lower limb was exposed to room temperature, and at 4 p.m. a right paravertebral block was performed with 10 ml. of 0.5% procaine hydrochloride in an attempt to open up the collateral vessels. At this stage the child's general condition prevented any more heroic measures. No change in the condition of the leg was noted.

At 8.30 p.m. an intense uncountable tachycardia occurred and the abdomen became distended; bowel sounds were absent. An occlusion of the superior mesenteric artery, causing a paralytic ileus, was envisaged. At 11 p.m. it was noted that the toes of the left foot had become icy cold and pale. The left femoral and popliteal arteries were palpable, but the left dorsalis pedis was impalpable. The abdominal distension gradually resolved, bowel sounds returned, and the child passed a motion mixed with blood.

At 9 a.m. on December 22 marbling of the left foot was present, extending to the ankle. The condition of the right limb remained unchanged. As the child's general condition had improved slightly it was decided to explore the aortic bifurcation despite the fact that 24 hours had elapsed since the onset of vascular inadequacy in the lower limbs.

Operation.—Under general anaesthesia the aortic bifurcation and the iliac tributaries were exposed by a midline subumbilical extraperitoneal approach. Pulsation was absent in the right common iliac but was present in the left iliac vessels. The thrombus was palpable, extending from the aortic bifurcation along the whole extent of the right common iliac and partially into the left common iliac vessels, partially obstructing the latter. The right common iliac artery and its tributaries were dissected out and rubber catheters passed round the external iliac and the common iliac arteries and aorta. A small vertical incision was made in the right common iliac artery, and the clot extruded itself and was withdrawn. Further extensions of the clot were milked and sucked out, proximally and distally, until brisk gushes of arterial bleeding occurred. The clot was smooth and not adherent to the arterial wall. The opening in the vessel was closed with five interrupted waxed-silk sutures. After suture the right common iliac artery was distinctly narrower than the left, but active pulsations were transmitted. The wound was then closed in layers.

The child's general condition remained unchanged and no appreciable improvement was noted in the limbs as compared with the pre-operative state. The blood-coagulation time, estimated at 9 p.m., was $7\frac{1}{2}$ minutes. Five thousand units of heparin was given intravenously. The child died at 3.25 a.m. on December 23.

Post-mortem Findings.—The heart disclosed no abnormality, but the lungs showed marked bronchopneumonic changes. The small intestine was covered with multiple small haemorrhagic infarcts, but no clot was found in the superior mesenteric artery. The thrombus removed from the aortic bifurcation was red in colour, and consisted of hyaline material containing red cells and granulocytes.

Discussion

All writers on arterial occlusion in infancy stress the importance of sepsis in its causation, but, as Gross correctly points out, overwhelming infection in infants may cause multiple areas of cutaneous and deep-tissue necrosis representing focal areas secondary to pyaemia or septicaemia, but only rarely will occlusion of larger vessels occur without the presence of endocardial vegetations.

Thrombosis of the umbilical and hypogastric arteries in the neonatal period is a physiological mechanism which may progress abnormally against the blood current into the common iliac artery. By progression the thrombus may extend even into the lower portion of the aorta. Arterial obstruction in the newborn should suggest this pathological sequence.

The presence or absence of a congenital heart lesion must always be ascertained; arterial embolism in such cases

carries a bad prognosis, as the likelihood of repeated episodes is ever present. In the presence of such a lesion, vascular accidents are fostered by any severe illness which may induce dehydration, haemoconcentration, and augmentation of blood coagulation.

In the above case the necropsy findings excluded a congenital heart lesion or endocardial vegetations—the latter having been considered clinically as the cause of the multiple emboli. It had been thought that the first embolus had impacted in the right common iliac artery, with retrograde extension to the aortic bifurcation, and that a second embolus involved the superior mesenteric artery. The absence, however, of a common source for the emboli strongly suggests that the arterial occlusions were due to separate thrombotic processes complicating a severe bronchopneumonia.

The collateral circulation in infancy must be extremely adaptable, with great potentiality for compensatory dilatation. Thus sympathetic nerve block is a useful measure. The administration of heparin may be difficult in infancy, but ethyl biscoumacetate ("tromexan") may prevent propagation of an established thrombus.

Embolectomy or surgical evacuation of the thrombus within 6 to 10 hours is indicated if the infant's limb is in danger, but amputation, even if indicated, should be deferred for as long as possible during this time, every effort being made to augment the impaired circulation.

We are indebted to Dr. M. L. Thomson and Mr. H. M. Goldberg for permission to report this case and for their advice and encouragement.

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Medical Memoranda

Pilonidal Sinus of the Suprapubic Region

Professor Ian Aird (1952) reports a case of pilonidal sinus of the axilla and states that this makes the sixth site of pilonidal suppuration, the five sites previously recorded being the sacro-coccygeal region, the perineum, the barber's hand, the sole of the foot, and the umbilicus. The following case report is of interest in that the patient presented a lesion in the suprapubic region which looked like and behaved like a pilonidal sinus. Histologically, it was a simple dermoid. Professor Aird's article stimulated the recording of this case of pilonidal suppuration at a site which must be rare, as it does not seem to have been reported previously.

CASE REPORT

The patient, a woman aged 35, was admitted to hospital on January 30, 1952, with a history of having had, in the suprapubic region, a swelling like a boil, which pointed and burst, then leaked pus for some weeks and finally regressed, only to recur and go through the same cycle again and again. The history was of two years' duration. Fourteen years before she had had a sacro-coccygeal pilonidal sinus excised. Following this operation the wound had healed soundly and there had been no recurrence of suppuration at that site.

On examination a sinus with a pinhole orifice was observed in the middle of a shallow depression $\frac{1}{4}$ in. (6 mm.) in diameter, in the midline immediately above the symphysis pubis. On pressure a small bead of pus was expressed from the orifice.

On January 31 the sinus, along with a cyst with which it communicated, was excised through an elliptical incision. The cyst extended downwards for about $1\frac{1}{2}$ in. (3.8 cm.) in the midline, its most distal part lying superficial to the symphysis pubis. A small tuft of hair was found inside the sinus. On February 6 the patient was discharged with the wound soundly healed.