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Streptokinase for aortic thrombosis

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SUMMARY A neonate developed complete thrombosis of the abdominal aorta after catheterisation of the umbilical artery. This was successfully treated with an intravenous infusion of streptokinase.

Aortic thrombosis is a rare but well recognised complication of catheterisation of the umbilical artery¹ for which the accepted management is surgical thrombectomy.² We describe a child who was successfully treated with intravenous streptokinase.

Case report

A baby boy was born at 40 weeks' gestation. He weighed 2340 g and was small for gestational age. His mother had smoked during the pregnancy. At birth his haemoglobin concentration was 259 g/l and the packed cell volume was 0.75. His blood glucose concentration subsequently dropped to <1.0 mmol/l and he developed respiratory distress for which he required artificial ventilation. An umbilical artery catheter (Argyle size 5F, Sherwood Medical) was inserted and the tip positioned at the level of the body of the 11th thoracic vertebra. A dilutional plasma exchange transfusion was carried out and the haemoglobin concentration fell to 225 g/l with a packed cell volume of 0.65. Seventy hours after its insertion the catheter had occluded and so it was removed. Twenty four hours later both the baby's legs were cold and mottled, with no pulses.

An aortogram was performed by the Seldinger technique through the right femoral artery; this showed that the abdominal aorta was completely occluded distal to the origin of the renal arteries (figure).

An intravenous bolus of 1000 U/kg of streptoki-

nase was given, followed by an infusion of 1000 U/kg/hour into a vein on the dorsum of the hand. Eight hours later both the femoral pulses were present on Doppler examination. After 30 hours his lower limb pulses were normal and the blood pressure in the right arm was 87/54 mm Hg and in the left leg 84/43. The streptokinase was discontinued and 25 U/kg/hour of heparin given for 48 hours.

Four months later all the pulses were normal and

Figure Abdominal aortogram showing total occlusion of abdominal aorta below origin of renal arteries.

the blood pressure in the right arm was 97/58 mmHg, in the right leg 95/55, and in the left leg 100/60. A radionuclide angiogram using ^{99m}Tc showed equal perfusion of both legs.

Discussion

Thrombosis of the abdominal aorta is a rare complication of catheterisation of the umbilical artery.¹ Untreated it is usually fatal, and surgical thrombectomy is the accepted management.²⁻³ The operation is, however, associated with appreciable operative mortality and morbidity, and thrombosis may recur.⁴

In this case an aortogram was performed to confirm the aortic thrombosis. The absence of femoral artery pulsation made the landmarks for percutaneous puncture of the femoral vein difficult. Though there might be concern about passing the catheter through the thrombus and possibly dislodging it, extensive experience of coronary angioplasty in adults with recently occluded coronary arteries has not confirmed this.

Streptokinase is a recognised alternative to thrombectomy in children with arterial thrombosis⁵ and we have used it successfully. Haemorrhage from the arterial puncture site is the main complication, but the incidence may be reduced by careful management. We recommend that streptokinase should only be given if the fibrinogen concentration is greater than 1.5 g/l, and that this should be checked after two hours, and subsequently at four hourly intervals. If the fibrinogen concentration falls below 1.0 g/l the infusion should be stopped and

heparin given.⁶ When the fibrinogen concentration rises above 1.0 g/l the streptokinase infusion may be restarted. We have found a decrease in the fibrinogen concentration is usually associated with successful thrombolysis.

This case shows the value of streptokinase as an alternative to operation in the management of aortic thrombosis following catheterisation of the umbilical artery.

We thank Dr PJ Todd for permission to report this case.

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Acute transient myositis due to Toxocara

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SUMMARY Two children presented with spontaneous, isolated swelling of the lower half of the left leg; this was diagnosed as acute myositis of unknown aetiology. Further investigations showed antibodies to *Toxocara*. The symptoms resolved within 72 hours and the children were discharged on no treatment.

The genus *Toxocara* comprises parasitic helminths that are capable of causing either asymptomatic or

symptomatic infection in humans. The two common manifestations of infection are visceral larva migrans and ocular larva migrans. Organs affected in the former category include the liver, lungs, brain, and heart. We describe two children in whom infection presented as acute myositis. To our knowledge this association has not been described previously.

Case reports

Two children, a girl aged 1½ and a boy aged 2½, both local children, presented to our department