

References

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Commentary

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The hyperoxia or nitrogen washout test is used to differentiate pulmonary disease from cardiac disease in the cyanotic neonate. A timely reminder that a major rise in systemic arterial oxygen tension

(>150 mmHg) does not always exclude the presence of a basically cyanotic lesion is given above, and the lesion described is not the sole lesion responsible for this response in the first few days of life.

A more common failure of differentiation occurs in the presence of pulmonary disease associated with a cardiac lesion. In the very young neonate increasing the ambient oxygen concentration does not invariably overcome pulmonary venous desaturation, so that clinically inapparent lung disease may limit the rise in systemic arterial saturation, and an apparently minor chest radiological abnormality can be associated with so profound a change in pulmonary circulatory physiology that there is no rise in systemic arterial saturation under the conditions of the test.

The result of the test may only be appropriately interpreted if the arterial samples are taken from the right arm (assuming situs solitus), the carbon dioxide tension is normal, and the infant exhibits no clinical features of respiratory distress. The chest radiograph should be carefully scrutinised for any pulmonary abnormalities. Remember a change in ductal calibre may lead to a different result on repeat testing. Cross sectional echocardiography is an essential examination in the differentiation of pulmonary from cardiac disease and in delineating the nature of any cardiac lesion in the neonatal period. In experienced hands it is the more reliable examination.

Vanishing earrings

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SUMMARY Four children who presented with impacted earrings are described. We suggest that the insertion of earrings in children under 10 years has hazards and recommend the use of sterling silver or 9 ct gold if the procedure is to be done in young children.

Parents are under increased pressure to accede to requests for ear piercing from very young offspring. As paediatricians we are sometimes asked to arbitrate in these matters when children are known to us. We have recently seen four children where ear piercing resulted in impaction.

Case histories

Case 1. A child of 8 years who was known to have asthma and mild eczema had her earlobes pierced with a paediatrician's blessing six weeks before presenting to the hospital. Sterling silver earrings were used. Three weeks after the procedure she demanded and was permitted a pair of gold plated ornamental studs. Within a week the right earlobe became itchy and crusty. The condition resolved after removal of the studs. A few days before she presented, however, she had replaced the studs. The right earlobe became mildly itchy again, and one morning the lobe was found to be extremely swollen and painful. The earring could not be located and was thought to have fallen out.

On examination the child was well but in considerable pain. The earring could not be seen in the swollen, macerated earlobe. Pus extruded from the posterior aspect of the lobe. A radiograph showed the presence of the entire earring in the soft tissues. (Figure).

Under general anaesthetic the lobe was explored and the earring removed. Antibiotics were prescribed and the swelling disappeared gradually over a few days. There was a small scar a few weeks later.

Case 2. A girl of 5 years who was known to have cyclical neutropenia presented to the department two weeks after the insertion of studs in both ears. Overnight the right earlobe had become grossly painful and swollen. The earring on that side could not be seen and was thought to have fallen out. Findings were similar to those described in case 1. Palpation of the lobe was exquisitely painful, and a radiograph was obtained. This again confirmed the presence of the stud in the soft tissues. The lobe was infiltrated with a local anaesthetic, and after a small incision the stud was removed with great difficulty because of the size of the retaining clip. A small amount of pus extruded from the wound. The lobe healed over in a few days, leaving a tiny nodular scar.

Cases 3 and 4. These were two girls of 6 and 8 years, respectively. Neither had predisposing illnesses and both were in good health. Both had had earrings inserted within two weeks of presenting and in both one earring had become impacted. In one this occurred on the right side, but in the six year old the

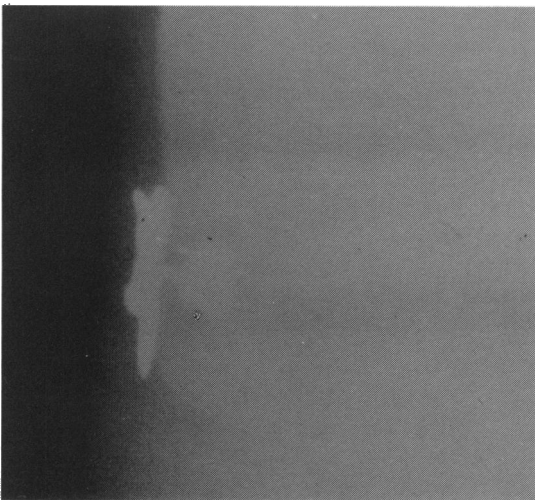


Figure Radiograph of ear of case 1 showing complete earring 'invisible' at examination of ear.

left side was involved; this child was a right thumb sucker. Progress in both children was as described in case 1.

Discussion

The four children described were all under 10 years of age. Each stud removed consisted of a tapered pin with an ornamental head of variable size up to 4 mm across. The pin passed through the lobe and was kept in place with a winged clip ('butterfly clip'), which locked into a grooved position on the pin.

We visited several high street stores to examine standards of procedure. In a large store providing a walk in service we observed 11 children in the space of an hour who had earrings inserted. Four of these children were aged under 5. The service charge was 80 pence for each stud inserted. The studs were of a bright gold colour and carried a small stone. No advice regarding antiseptics was offered. A small plastic spray tube containing 20 ml of a solution of chlorhexidine and spirit was available. Its price more than doubled the cost of the exercise, and only one purchase was made.

At a second store the cost of ear piercing was much higher. Children under the age of 10 were not accepted for the procedure. The practice was to use either sterling silver or 9 ct gold studs. This practice was based on long experience of younger children presenting with problems after ear piercing. We believe that the use of studs dipped in gold paint in very young children results in the flaking off of minute particles of paint when the studs are tampered with—a temptation unlikely to be resisted by the very young child. The use of non-plated, non-allergenic material is likely to prevent the kind of reaction and subsequent infection seen in our four cases.

The problem of impacted earrings is not uncommonly seen in accident and emergency departments.¹ Trends in present fashion suggest that more young children are likely to present with problems. Although we have seen no serious sequelae, the experience for children we have seen has been frightening and memorable. Parents should be asked to resist firmly the demands of their very young children. When earrings are selected they should be of non-allergenic material, and regular application of an antiseptic to the site should be encouraged.

Reference

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