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PICTURE QUIZ

Periocular lesion in an infant

A 3 month old girl presented to the dermatology department with an enlarging lesion over the left lateral bridge of her nose (figure). The lesion started to develop three weeks after birth as a small red patch and subsequently grew in size. The lesion extended to the left upper eyelid, with partial obscuration of the line of sight. The girl was born at full term after a normal pregnancy and delivery. She was otherwise well and not taking any regular drugs.

1 What is the diagnosis?
2 What is the natural course of this condition?
3 Should this lesion be treated and, if so, why?
4 What are the treatment options?

Submitted by Katie Williams, Richard Woolf, and Danny Morrison
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STATISTICAL QUESTION

Why match in case-control studies?

Researchers investigated the effectiveness of a monovalent rotavirus vaccine against severe rotavirus diarrhoea in children aged under 2 years. A case-control study design was used. In total, 323 children were recruited from seven hospitals in El Salvador after admission with laboratory confirmed rotavirus diarrhoea. For each case three controls, matched for age (within 30 days of date of birth) and neighbourhood, were recruited.

Vaccination history was confirmed after inspection of vaccination cards held by the parents. Potential risk factors—including demographics, socioeconomic factors, birth weight, premature birth, current body mass index, history of breast feeding, day care attendance and medical history—were collected from hospital records or in interviews with parents. The researchers concluded that the monovalent rotavirus vaccine was highly effective against admissions for rotavirus diarrhoea in children aged under 2 years in El Salvador. No differences were reported between cases and controls in breastfeeding patterns, premature birth, maternal education, or socioeconomic variables.

Which of the following types of bias, if any, would matching of cases and controls have minimised?

a) Allocation bias
b) Confounding
c) Ecological fallacy
d) Recall bias

Submitted by Philip Sedgwick
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CASE REPORT

Ischaemia of the extremities in a smoker

A 51 year old man presented with a six week history of pain in his right hand, which was associated with blue discoloration and a discharge of pus from the tip of his index finger. He was a lifelong smoker but had no other cardiovascular risk factors. He had a history of Raynaud's phenomenon affecting both hands and claudication of both feet.

His blood pressure was 120/80 mm Hg and his cardiovascular examination was normal. No carotid, subclavian, or femoral bruits were heard. Capillary refill was prolonged at six seconds. The right hand digits were cyanosed, with wet gangrene in the distal right index finger. Brachial pulses were palpable but radial and ulnar pulses were absent bilaterally. Femoral and popliteal pulses were palpable but all foot pulses were absent. Allen's test was positive.

Laboratory investigations showed sodium 141 mmol/L (reference range 135-145), potassium 5.6 mmol/L (3.5-5.0), urea 6.5 mmol/L (2.5-6.7), creatinine 80 mmol/L (70-120), glucose 6 mmol/L (3-7.8), C reactive protein 16 mg/L (0-5), white blood cell count 12.4×10^9/L (4-10), and neutrophils 9.1×10^9/L (1.8-7.5). His autoimmune profile was negative and his hypercoagulability screen was normal. Electrocardiography showed a normal sinus rhythm. On angiographic assessment, he had normal proximal vessels but distal small vessel disease and medium vessel disease bilaterally; he also had segmental and distal occlusion of the radial and ulnar arteries and the posterior tibial arteries bilaterally. On ultrasound examination the vessels were dilated, with a halo of inflammatory tissue around the thrombosed artery centre.

1 What disease best describes this patient's presentation?
2 How is the diagnosis made?
3 What single management provides the best outcome and reduces the need for amputation?

Submitted by Rosanna Berryman, Ian Currie, and Robert McCarthy
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