ENDOCARDITIS FOLLOWING CAESAREAN SECTION

In cases where patients with a complicated history are seen by different clinicians at follow-up, a diagnosis of serious conditions may be hampered and delayed. This case in point describes a female patient who developed *Enterococcus faecalis* endocarditis following an emergency Caesarean section.

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Case report

A previously fit and well 32 year old female of Indian origin presented to her GP at three weeks post emergency caesarean section with 48 hours history of muscle aches, a generalised papular rash, and throat erythema. She reported no fevers.

At routine follow up three days later she felt better and the rash had improved. A throat swab taken at that time grew Streptococcus group G, sensitive to penicillin. Blood tests demonstrated C-reactive protein (CRP) 78 (0-10mg/L), ESR 48 (1-20mm/hr), normal antistreptolysin O titre, normal liver and renal function, and normal FBC. Antibiotics were not started as she felt well. Blood tests one week later showed CRP 40 with normal FBC.

The following week she developed a sore throat and felt feverish, and the rash recurred. On examination she was apyrexial, the pharynx appeared normal and there were no cervical lymph nodes palpable. Phenoxymethylpenicillin was started. Blood tests at the end of the antibiotic course demonstrated ESR 62, CRP 88, and normal FBC.

Two days later she attended A&E, where she was started on co-amoxiclav for a presumed urinary tract infection (UTI) as she had abdominal pain, with leucocytes and ketones in her urine. She also developed cellulitis at a previous venepuncture site. Blood tests showed WCC 13.5 (4-11x10^9/L), Neutrophils 11.6 (1.7-8.0x10^9/L), CRP 123.5.

Despite one week of oral co-amoxiclav, the cellulitis worsened. Repeat blood tests showed normal FBC, ESR >120, CRP 106, ferritin 272 (10-120µg/L), ALP 163 (30-130µ/L), ALT 48 (<40µ/L), GGT 62 (<38µ/L), and her urine sample had a negative culture. Treatment with flucloxacillin was started.

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Repeat blood tests after 4 days of antibiotic treatment demonstrated normal FBC, normal liver function tests, CRP 21, ESR 104. Further blood tests 3 weeks later demonstrated normal FBC, normal liver function, ESR 23, CRP 4. Prior to this blood test she had been abroad on holiday and informed us she had had a course of co-amoxiclav for an *E. coli* urinary tract infection.

She presented one week after her blood test complaining of right sided lower back pain. Further exploration of the history revealed two months of intermittent fever, night sweats, lethargy, and weight loss to the extent that she remarked she was thinner now than prior to her pregnancy. She denied a history of intravenous drug use or rheumatic fever. On examination her pulse rate was 100 beats per minute, blood pressure was 110/67mmHg, and splinter haemorrhages and nail clubbing were present. A diastolic murmur was present on cardiac auscultation. Respiratory system and abdominal examination were unremarkable.

A diagnosis of infective endocarditis was suspected, and emergency hospital admission was arranged under the medical team. The diagnosis was confirmed when an echocardiogram demonstrated an aortic valve vegetation with moderate/severe aortic regurgitation, and blood cultures grew *Enterococcus*

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faecalis in 3 bottles. CRP was 10 on admission. She subsequently went on to have a homograft aortic root replacement with a cadaveric human valve as she was planning future pregnancies and did not wish to be anticoagulated. She had four weeks of intravenous antibiotics in total and is currently under yearly follow-up by a cardiologist.

Discussion

Bacterial endocarditis is an infection of the endocardium of the heart with a reported incidence in the United Kingdom of 1.7 to 6.2 cases per 100,000 patient years and a high morbidity and mortality.[1] Enterococci are the third most common aetiologic agent of infective endocarditis worldwide (after staphylococci and streptococci) and cause 10-15% of cases.[2]

Diagnosis of endocarditis can be challenging, particularly in cases where confounding factors are present. In this case, these were a streptococcal pharyngitis, papular rash, abdominal pain (which at the time was assumed to be due to a UTI) and cellulitis at a venepuncture site. There is no evidence that the pharyngitis, rash or cellulitis were related to the endocarditis. There have been documented cases of infective endocarditis presenting with abdominal pain secondary to septic emboli,[4,5] although it is unclear in this case whether or not the patient's abdominal pain was related to this.

This patient had no risk factors for endocarditis, and it is not certain when the initial source infection occurred. It is possible the patient may have developed an enterococcus bacteraemia during her Caesarean section and postoperative period, and this may have been the source of the endocarditis.

Continuity of care was compromised in this case as the patient was not seen by the same clinician at each GP appointment; she presented to the A&E department at one point, and was also seen by a doctor abroad from whom no documentation pertaining to the diagnosis was received. This increased the difficulty in making the diagnosis. Had this patient been seen by the same clinician on each occasion – or had there been close communication between the various clinicians she saw – she would probably have been diagnosed earlier, since the broader picture would have been clearer, rather than the focus being placed on each individual presentation (pharyngitis, cellulitis etc).

This case report highlights the importance of continuity of care, thorough history taking and clinical examination, as well as the value of maintaining clinical curiosity when a patient does not respond to treatment as expected.

References

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