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Group A streptococcal infections in primary care:

a case report

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INTRODUCTION

Disseminated group A streptococcal disease is rarely seen in general practice, however this serious condition has a variety of presentations which are discussed. This case report follows an occult presentation in a previously fit male, with a fatal outcome.

CASE REPORT

A fit 33-year-old male with no predisposing illnesses, presented to the GP on day 4 following a muscular strain. The history given was of bending over and feeling a sudden pain in the left hamstring. The pain increased over the following 3 days. There was no obvious trauma; the patient was walking with a stick. The patient had taken 60 mg of dihydrocodeine and had felt nauseated and dizzy. Physical examination of the hip and limb revealed a normal hip joint, a very tender hamstring region. There were no skin changes and movement of the knee was restricted due to hamstring pain. The working diagnosis of a hamstring strain was made and the patient was advised to take paracetamol, ibuprofen, and dihydrocodeine 30 mg four times a day.

The second clinical encounter took place on day 5 at 9pm, with a home visit from a second GP. The patient was experiencing continuing marked left hamstring pain and had been vomiting. He had not passed urine since the morning, he was not fevered, and did not complain of systemic illness or headache. The patient was alert and was not in respiratory distress, there were no skin changes. The vomiting was thought to be due to the dihydrocodeine or a viral gastroenteritis. He was advised to take prochlorperazine 3 mg every 6 hours and to increase oral fluids.

On the morning of day 6 the third GP found the patient to be unwell and suffering from increased pain. There was a bruise now evident at the distal end of the left hamstring. The differential diagnosis was a severe hamstring strain and hypotension secondary to drug side effects. He was admitted to the community hospital for intravenous fluids and further assessment. The patient arrived within an hour and his condition had deteriorated rapidly, he was distressed but alert, pale, sweating, and in pain. His observations were: pulse 141 beats per minute, blood pressure 80/33 mmHg, oxygen saturation 95%, and temperature 36.7°C, Glasgow Coma Scale 15/15. Over the left hamstring area there was a small area of bruising. It was apparent that his condition was disproportionate to a hamstring strain. He was resuscitated with intravenous fluids and oxygen, he was treated with intravenous omeperazole and prochlorperazine, and rapidly transferred to the district general hospital. The working diagnosis at this point was of a gastrointestinal (GI) bleed.

On admission to the district general hospital, the patient was resuscitated, however his condition deteriorated rapidly. There was a very high C-reactive protein level. Despite antibiotics, intravenous fluids, inotrope support, and intubation and ventilation he continued to deteriorate. The diagnosis of necrotising fasciitis was made on a computerised tomography scan later that day and he was taken to theatre that evening for amputation of his left leg. In theatre, gram positive cocci were aspirated from the hamstring region. The organism responsible for the condition was identified as group A streptococcus (GAS). The amputation was not successful in reversing the systemic sepsis and the patient subsequently died in the early hours of the morning. There was no post mortem.

DISCUSSION

Group A streptococcal infections can lead to toxic shock syndrome, necrotising fasciitis, and myositis. Necrotising fasciitis has an incidence of 1 in 100 000 and a 70% mortality rate.[1] Approximately half of the cases in the UK are in the young and fit

population. Risk factors include diabetes, age over 50 years, steroid treatment, high blood pressure, obesity, and alcoholism. It presents with rapidly progressive cellulitis, pain, and septicaemia. There is often a minor entry point in younger cases. In this case streptococcal myositis presented with a muscular tear and followed a similar pathway to necrotising fasciitis, without superficial signs.

Acute streptococcal infection involving the fascia or muscle with no superficial wound or cellulitis is rare. This presentation had no physical signs other than severe pain until day 5, when the patient developed systemic signs of illness including vomiting. This is in keeping with case reports in the literature.[2,3] Acute group A streptococcal myositis is exceptionally rare,[4] with 25 cases in the literature from 1900–1985. The published mortality rate for necrotising fasciitis is 20–50% and for group A streptococcal myositis 80–100%.[4] The signs are of disproportionate pain to the mechanism of injury, accompanied later by a flu-like illness with fever, vomiting, and diarrhoea. In this case there were no skin signs until day 6 of the illness.

The mechanism of injury can lead to attraction of the streptococcal bacteria, which is enhanced by the use of non-steroidal anti-inflammatory drugs[5] (NSAIDS). These are commonly given for muscular pain following exercise in the UK. Treatment is resuscitation, antibiotics, (penicillin and clindamycin), and surgery for debridement of affected tissues.[6]

GPs need to be alert to the possibility of streptococcal septicaemia in patients who have disproportionate pain from muscular injury, with or without cellulitis, along with non-specific systemic symptoms and signs such as hypotension and vomiting. NSAIDS may lead to an acceleration of this rare condition.

Consent

The patient's next of kin has provided written consent for this article to be published.

Provenance

Freely submitted; externally peer reviewed.

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