Anaesthetic management of a patient with Lyme disease and familial hypercalciuric hypercalcaemia

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Introduction

Lyme disease is an underreported and multisystem disease. It is the world's fastest growing vector-borne infection.[1] Cardiac and neurological systems are the most pertinent in anaesthetic patients.[2] Thorough preoperative evaluation of these patients is essential especially when coexisting with other comorbidities.

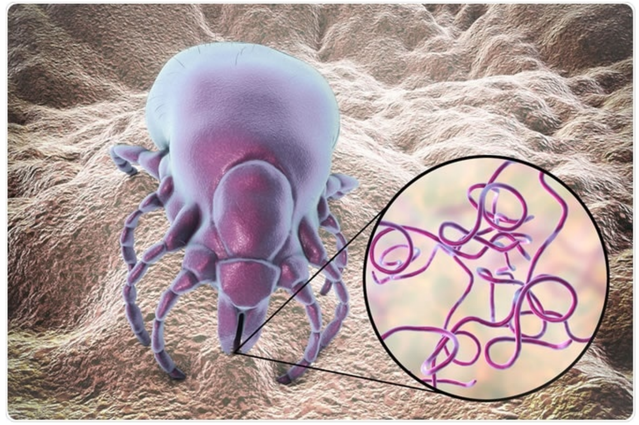

Figure 1: Tick transmitting the Borrelia burgdorferi spirochete corkscrew –shaped bacteria [1]

Case Study

An 18 year old female presented for preoperative assessment for tonsillectomy with a background of chronic lyme disease, familial hypercalciuric hypercalcaemia, chronic fatigue, myalgia and constipation. Her medications included naltrexone and mimpara.

She was investigated a month ago for non-specific chest and abdominal pain with a calcium level of 3.09 and discharged with endocrinology follow-up.

Preoperatively cardiovascular and neurological exams were normal. In light of her lyme disease a 12-lead ECG and a echocardiogram were scheduled to evaluate ventricular function and rule out pericarditis or a pericardial effusion. Both investigations were normal. She was admitted the night before surgery for observations, pre-hydration and repeat bloods and was scheduled first on the list.

The day before her surgery her adjusted calcium level was 2.95. She was pre-hydrated with maintenance of 0.9% saline. The calcium level the day of surgery corrected to 2.45. Levels were monitored intraoperatively and remained normal postoperatively.

Despite holding her naltrexone, she required repeated opioid boluses for breakthrough pain. She was comfortable before leaving recovery. She was discharged a day later and advised to keep her endocrinology appointment.

Patient consent was obtained.

Figure 2: Pathognomonic erythema migrans (EM) or "bull's-eye" rash[2]

Discussion

There are a few key messages from this case:

- A thorough preoperative assessment and perioperative plan is essential when a patient presents with either Lyme disease or hypercalcaemia.
- Cardiac and neurological involvement are of primary concern in those patients with lyme disease.
- One must be vigilant of the sequelae of hypercalcaemia and ensure prompt and adequate management (eg. hydration) preoperatively to prevent potential clinical deterioration.

References

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