Clinical history

A 2-year-old boy presented at the emergency department with a sore throat, difficulty to swallow and a swollen and tender neck for the past 4 days. The general practitioner had already started oral antibiotics but no significant improvement was seen. Clinical examination showed a medialisation of the left tonsil, with a presumption of a left peritonsillar abscess. Also a distinct cervical lymphadenopathy was felt. Laboratory findings showed an elevated WBC count with a left shift and a high C-reactive protein level of 170 mg/dl.
A contrast-enhanced CT scan of the neck was requested (Fig. 1)

Imaging findings

Figure 1: Contrast-enhanced CT scan of the neck.
Fig. 1a: Axial section at the level of the tonsils.
Fig. 1b: Sagittal reformatted image in the left paramedian plane.
Fig. 1c: Axial section at the level of the posterior fossa.
An elongated hypodense mass with an enhancing wall is seen in the left peritonsilar loge, spreading to the adjacent parapharyngeal space (Fig. 1a and 1b).
Distinct narrowing of the ipsilateral internal jugular vein with absence of opacification of the proximal vein (Fig. 1a and 1b) and of the sinus sigmoideus (Fig. 1c), as can be seen in thrombophlebitis. Extrinsic compression is less likely.
Fig. 1d: Axial section at mandibular level.
Several enlarged, reactive lymph nodes are seen in the left neck region, the posterior triangle of the neck and against the left sternocleidomastoid muscle.

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The diagnosis of Lemierre’s syndrome was made on the basis of CT findings and a positive culture of F. Necrophorum.

Comment

Lemierre’s syndrome, also known as postanginal septicemia, is an uncommon but life-threatening condition. It results from an acute oropharyngeal infection and can lead to septic thrombophlebitis of the internal jugular vein. The thrombophlebitis can lead to further systemic complications such as bacteremia or septic emboli. Since the introduction of antibiotics, there is a substantial decrease of mortality associated with Lemierre’s syndrome. However delay in diagnosis and antibiotic treatment is common as physicians are less familiar with this syndrome and the initial manifestations are often aspecific. Lemierre’s syndrome frequently affects young adults and is classically described as a cohesion of symptoms of a sore throat, fever, neck swelling and general body weakness. These can be followed by swollen cervical lymph nodes, pulmonary involvement and arthralgia. Clinical examination might reveal an exudative tonsillitis or milder form of pharyngitis.

The diagnosis can be established on the presence of positive blood cultures, usually with F. Necrophorum, and appropriate imaging findings. The growth of characteristic anaerobic bacteria from a blood culture may be a key finding, but takes a lot of time. That is why CT findings play a crucial role in the early recognition of this syndrome. Depicting jugular vein thrombophlebitis is often the first diagnostic clue. A contrast-enhanced CT scan of the neck is the imaging study of choice to find the inciting abscess and to demonstrate the thrombus. An MRI exam can also be diagnostic and uses no radiation, but isn’t always available in a critical setting. A less invasive alternative is Doppler ultrasonography which can be done at the bedside. It is however less sensitive, particularly in the area deep to clavicle and mandible and can miss a newly formed thrombus with low echogenicity.

The patient received an IV antibiotic treatment with co-amoxyclav and clexane in therapeutic dose. The next day, a distinct decrease of the complaints was seen. A Doppler ultrasonography of the neck was made and showed no thrombus in the internal jugular vein.

Key words

Lemierre’s syndrome – peritonsillar abscess – CT scan – thrombophlebitis jugular vein

References


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