

Jugular thrombosis following tonsillectomy

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Abstract

An unusual case of internal jugular thrombosis following routine tonsillectomy is presented. Guidelines for the clinical management of this case, with anticoagulants, do not exist.

Key words: Jugular Veins; Thrombosis; Tonsillectomy

Case report

A 16-year-old girl, with a history of recurrent tonsillitis, was admitted for a routine tonsillectomy. There was no past medical history nor family history of note. The tonsils were removed by dissection and haemostasis secured by bipolar diathermy. The following day she was discharged home. It was noted that she was able to eat and drink and had adequate pain relief. On examination she was apyrexial with no sign of bleeding in her tonsillar fossae.

Six days later she presented to the accident and emergency department with a history of increasing unilateral neck discomfort and painful swallowing. Inspection revealed a right-sided diffuse neck swelling. On examination she was febrile (38.6°C) and tender to palpation in the neck on the right side. The rest of the examination including neurological assessment was normal. Haematological investigations revealed a haemoglobin of 11.6 g/dl, a white cell count of $19.1 \times 10^9/l$ and a platelet count of $280 \times 10^9/l$.

She was admitted to hospital and started on intravenous antibiotics, fluids and analgesics. Due to the swollen tender neck an ultrasound was arranged. This demonstrated thrombosis of the right internal jugular vein. A subsequent computed tomography (CT) scan demonstrated the thrombosis extending just above the greater horn of the hyoid to the upper pole of the thyroid. There was no intracranial extension.

After discussion with haematology and neurology consultants it was decided not to anticoagulate the patient. Subsequent coagulation studies revealed no defect to explain the thrombosis.

Discussion

This is a very rare complication following tonsillectomy, that has not been reported previously in the literature. Venous thrombosis occurs due to the initiation of a number of factors. The Virchow triad has stood the test of time, namely the interplay between the thrombogenicity of the vessel wall, the constituents of the blood, and the rate of flow, determine if thrombus forms.

It is not clear what the cause of this jugular thrombosis was. It may be related to tissue trauma and relative venous stasis at the time of surgery or to post-operative infection or a combination of both.

It is also not clear if the patient should have been treated with an anticoagulant. A pulmonary embolus or retrograde extension into the cerebral circulation are potentially serious complications. A review of the literature on venous thrombosis provides clear guidelines on the treatment of above knee, deep venous thrombosis with warfarin. It is also clear that patients with coagulation defects presenting with jugular thrombosis are also treated with warfarin.^{1,2} However, no clear guidelines on the management of jugular thrombosis exist.

Leontsinis *et al.*³ prospectively reviewed 27 selective neck dissection patients. Retrograde venography performed at one month demonstrated eight out of 27 patients developed ipsilateral thrombosed internal jugular veins. These patients were not anticoagulated. The authors reported no complications related to venous embolism in this group of patients. Lin *et al.*⁴ reported on the spontaneous resolution of internal jugular vein thrombosis in a *Salmonella* neck abscess patient. The patient was managed by surgical drainage and antibiotics, however, the patient was not anticoagulated.

With regards to this case a decision not to anticoagulate was made, on the demonstration of an isolated thrombosis detected six days post-event with a normal coagulation screen. This decision was made after consultation with haematology and neurology consultants. Had any complications been detected or the thrombus been detected soon after the operation the patient would have been anticoagulated for six months.

Conclusion

Jugular thrombosis following tonsillectomy is rare. Clear guidelines on the management of internal jugular thrombosis have not been published. However, due to the potential serious morbidity and mortality of pulmonary embolism or retrograde extension into the cerebral circulation most patients will be anticoagulated following detection of internal jugular vein thrombosis.

References

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