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Sepsis- An unusual post tonsillectomy complication

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Abstract
Tonsillectomy is a commonly performed procedure in children. Disseminated sepsis is a rare complication of tonsillectomy. Patients usually present with hypotension, reduced oxygen saturation, tachycardia with high total count and reduced urine output. Our patient also required NIV (non-invasive ventilation), ionotropes and antibiotics with serial blood examinations. Early diagnosis and prompt treatment will help in better outcome.
The tonsils contain T lymphocytes and macrophages as they serve immune defense mechanisms. Tonsillitis is most commonly caused by viral infection, 40% of cases are caused by bacterial infection. Immunological functions like antigen transport and antibody production are altered in diseased tonsils. The presence of various micro organisms in the open tonsillar bed during and after tonsillectomy acts as foci of infection.
The tissue reaction and presence of micro-organisms is also due to different surgical techniques involved.

Keywords: Tonsillectomy, Sepsis, Hypotension, Inflammation.

Letter to Editor
Tonsillectomy is a commonly performed procedure in children. Disseminated sepsis is a rare complication of tonsillectomy.[1] We recently encountered a case of sepsis following tonsillectomy in our hospital.

A fourteen year old girl of American society of anaesthesiologists physical status I was posted for elective tonsillectomy. There were no significant findings on pre-anaesthetic work up. Her BP was 114/74 mm of Hg, HR of 86 bpm. General anaesthesia was induced with intravenous (IV) Inj. Glycopyrrolate 0.004mg/kg, Inj. midazolam 0.05mg/kg, Inj. Fentanyl 2 microgram/kg and Inj. Propofol 2mg/kg. She was intubated with Inj. Succinylcholine 1.5mg/kg and maintained on intermittent positive pressure ventilation using oxygen (O2) and nitrous oxide (3:5), Inj.vecuronium 0.1 mg/kg as a muscle relaxant. The surgery was uneventful. She was reversed and extubated uneventfully. She was conscious maintaining vitals. She was monitored in the post anaesthesia care unit four hours postoperatively and then shifted to the wards.

Four hours later, she developed hypotension and dizziness. She was conscious with a blood pressure (BP) of 70 /30 mm of Hg, heart rate (HR) 110 beats per minute and oxygen saturation (Spo2) of 99% on room air. Echocardiography did not reveal any abnormality. There were no signs of failure. We looked for signs of a post- tonsillectomy bleed and checked on our perioperative fluid management. There was no bleed and our fluid management too was correct.

The patient was immediately shifted to the intensive care unit and started on I V fluids and Inj. noradrenaline 5microgram/kg/min. Her laboratory values revealed a haemoglobin level of 10.8 gm%, total count of 20,000 cells per cu mm and platelet count 2,50,000 per cu mm. Her chest radiograph revealed a pneumonic patch in the right lower lobe. Next day she developed cough with whitish expectoration and breathlessness, marked tachycardia, tachypnea, hypotension and low oxygen saturation (BP 100/60 mm of Hg on ionotrope, HR 140 bpm, SPO2 92% with 5 litres of O2, respiratory rate 44bpm) and bilateral basal crepitations.

On the second day, her total count rose to 30,000 cells per cu mm. She was started on noninvasive ventilation with propped up position, Inj frusemide 20 mg stat dose considering possibility volume overload, Inj piperacillin and tazobactam 4.5gm TID, Inj hydrocortisone 100 mg. Inj.deriphylline and salbutamol nebulization were started. Non- invasive ventilation was continued for 24 hours. Later she was placed on oxygen mask on the third postoperative day, she was taken off oxygen and ionotropes. All parameters came back to normal. The blood culture report was positive for Streptococcus.

Discussion
It is commonly thought that tonsils play a role in immunity; however inflamed and diseased tonsils have no role to play in immunity as various mechanisms are altered such as reduced antigen transport, decreased antibody production. In fact, these patients are more prone for bacterial and viral infections. The colonization of pathogens in the open tonsillar bed during and after tonsillectomy acts as foci of infection, causing inflammation, pain and worsening of the condition.[2]

The surgical technique used such as cold knife/ electric/hot knife dissection, laser co-ablation and trauma of surgery is the key factor for tissue reaction and presence of various microorganisms.[3]

Some authors have reported severe group A beta hemolytic streptococcal infection and even death after uncomplicated tonsillectomy.[4-6] Our case gives the message that unexpected infectious complications like sepsis can occur following tonsillectomy and this should be kept in mind when patient presents postoperatively with tachycardia and hypotension.

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