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Concurrent Late Post-Tonsillectomy Hemorrhage and Dengue Fever in a 17-Year-Old Girl: A Case Report

ABSTRACT

Objective: To present the case of a 17-year-old girl who was readmitted post-tonsillectomy due to dengue fever, hematemesis and late tonsillar bleeding three weeks after the surgery.

Methods:

Design:	Case Report
Setting:	Tertiary Government Training Hospital
Patient:	One

Results: A previously healthy 17-year-old Filipino girl underwent uncomplicated elective tonsillectomy for chronic hypertrophic tonsillitis. Twenty days post-operatively, she developed fever, thrombocytopenia and massive hematemesis. Despite intensive care management for severe dengue fever with concurrent late post-tonsillectomy bleeding, the patient died from hemorrhagic shock on post-operative day 21.

Conclusion: This appears to be the first reported case of concurrent late post-tonsillectomy hemorrhage and dengue fever in a previously healthy adolescent girl. In dengue-endemic areas, post-tonsillectomy patients should be counseled about dengue prevention and advised to seek medical attention for persistent fever. Early recognition and management of this potentially fatal combination is crucial for improving patient outcomes.

Keywords: *tonsillectomy; tonsillectomy, adverse effects; tonsillectomy, mortality; dengue; dengue hemorrhagic fever*

Tonsillectomy is one of the most commonly performed procedures by otorhinolaryngologists with only 1-4% bleeding rates, majority occurring on the first two weeks after the surgery.¹ Dengue, on the other hand, has been increasing in prevalence over the past decades, making the Philippines dengue-endemic. The occurrence of dengue fever following tonsillectomy could be disastrous leading to post-tonsillectomy hemorrhage. A search of HERDIN Plus, MEDLINE

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(PubMed), and Google Scholar using the keywords «tonsillectomy,» «dengue» and «dengue hemorrhagic fever» yielded no reports of the simultaneous occurrence of dengue and late post tonsillectomy hemorrhage. We report one such case.

CASE REPORT

A previously healthy 17-year-old girl from Negros Occidental presented with a four-year history of recurrent tonsillopharyngitis and chronic hypertrophic tonsils. Pre-operative history and physical examination findings were unremarkable other than bilateral grade III, hypertrophic, non-erythematous pharyngeal tonsils. Laboratory exams were within normal limits with normal bleeding parameters (prothrombin time, platelets).

She underwent elective tonsillectomy under general anesthesia. The procedure was uncomplicated, as was the immediate post-operative period. Our patient was discharged the following day with weekly scheduled follow-ups and was advised to resume normal diet and activity after the second week.

On post-operative day 15, she developed persistent fever and body malaise. After three days, she was admitted to a local district hospital for dengue fever. Twenty days post-surgery, she was transferred to our institution due to thrombocytopenia, massive hematemesis and hypotension. Physical examination showed minimal bleeding in the tonsillar beds with no signs of infection. She was admitted to the Pediatric Intensive Care Unit (PICU) and was managed accordingly as a case of dengue. Massive hematemesis recurred and oropharyngeal packs were placed in the tonsillar beds after the patient was intubated.

Despite aggressive medical management including fluid resuscitation, vasopressor support, and blood component therapy, she continued to experience massive hematemesis and her vital signs deteriorated rapidly. Twenty-one days after her elective tonsillectomy, our patient expired from hemorrhagic shock.

DISCUSSION

Tonsillectomy is one of the most commonly performed surgical procedures by otorhinolaryngologists among the pediatric age group. It is considered to be a relatively benign procedure. Despite its commonality, complications are still not rare. Fortunately, the majority of complications (like dysphagia, pain and dehydration) are not life threatening and easily managed. The most reported severe complication is hemorrhage with incidence ranging from 1-4%.^{1,2}

Post-tonsillectomy bleed is categorized into three. Early/primary bleeding, which occurs during the first 24 hours after operation, is considered to be directly related to the surgical technique.³ Delayed/secondary bleeding, occurring on days 1-10 is usually due to sloughed

off eschar, most commonly on days 2-7.⁴ Late bleeding which occurs beyond 10 days is least common, and is considered to be due to secondary factors not directly related to tonsillectomy, as seen in this case.^{2,5} The management of late tonsillar bleeding should depend on the degree of hemorrhage as well as on the underlying cause since it is generally due to factors not related to the surgery. Even a massive hemorrhage can first be treated medically or conservatively by applying pressure.⁶ If remains intractable, a good surgical candidate with no evidence of coagulopathy can be managed in the operating room using cauterization or vascular ligation.⁷⁻⁹ As is the case for minimal tonsillar bed bleeding, no surgical intervention is necessary especially when there are coagulopathy-related bleeding events because invasive measures may cause more harm than good.⁶ In our case, oropharyngeal packing after the patient was intubated already qualified as non-invasive management that was sufficient for the persistent, minimal bleeding seen.^{4,6-9}

Our patient also had dengue, a viral infection caused by strains belonging to the *Flaviviridae* family.¹⁰ It is endemic and occurs year-round in the Philippines, with a morbidity rate of 198 per 100,000 population.¹¹ Hemorrhage and/or pulmonary congestion from fluid overload in the convalescent or critical phase remains to be the common cause of mortality.¹² The incidence of dengue in Region VI where our patient was residing was 5,268 in 2016, making her one of the many at risk but unlucky enough to contact dengue just less than a month after her surgery.¹¹

Dengue virus infection acquired post-operatively was well documented among renal surgery cases with a mortality rate ranging from 33-75%.¹³ Surgical wound hemorrhage and gastro-intestinal bleeding were the common cause of severe bleeding in dengue,¹³ the latter being a likely explanation for the massive hematemesis seen in our case. Thus, it has been suggested that in the absence of other focus of infection, a post-operative rise in temperature particularly in a dengue-endemic region, dengue fever should be highly suspected.¹⁴ It is imperative to manage dengue during the early phase when fluids are the primary remedy and recovery is highly expected. However, the patient was only brought in and treated for dengue after being febrile for three days and already having mucosal bleeding. The risk for mortality increases as the patient is deprived of prompt and proper management, a situation that might have been avoided had the patient and her parents been aware of these risks and consulted at the first sign of dengue.^{10,12}

Several factors may have contributed to the fatal outcome in this case. First, the delayed recognition of dengue fever, since the patient was not evaluated by a clinician until febrile day three. Second, the concurrent bleeding risks from the combination of a healing post-



surgical wound and dengue-induced coagulopathy created a perfect storm for this hemorrhagic incident. Lastly, the latter combination limited therapeutic options as the severe coagulopathy precluded surgical bleeding control.^{14,15}

Post-tonsillectomy bleed is not uncommon, and dengue fever is endemic in the Philippines. Whether their concurrence in this case is isolated or these cases are just underreported, it is critical to raise awareness that it can happen. We suggest that otolaryngologists and post-tonsillectomy patients living in dengue-endemic areas be vigilant should there be a late post-tonsillectomy bleed and a history of persistent fever with no other focus. In these areas, we recommend that clinical practice include pre-operative counseling, with emphasis on dengue prevention measures and seeking immediate medical

attention for post-operative fever. Those with persistent fever should be promptly evaluated to facilitate early recognition and appropriate fluid management during the early phase of dengue. Finally, multidisciplinary close collaboration between otolaryngologists, infectious disease specialists and pediatric intensivists may improve patient outcomes, better than that reported in this case..

In conclusion, this appears to be the first reported case of concurrent late post-tonsillectomy hemorrhage and dengue fever in a previously healthy adolescent girl. In dengue-endemic areas, post-tonsillectomy patients should be counseled about dengue prevention and advised to seek medical attention for persistent fever. Early recognition and management of this potentially fatal combination is crucial for improving patient outcomes.

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