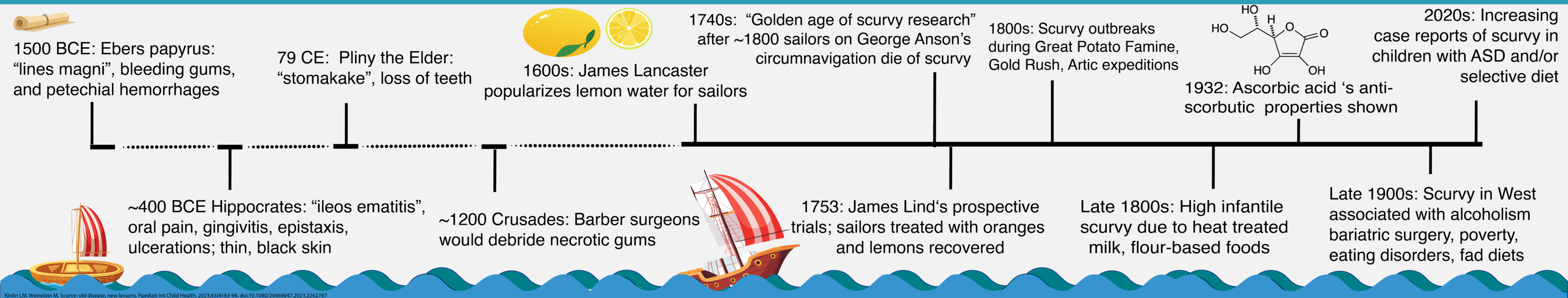


Scurvy After Surgery: A Rare Cause of Delayed Bleeding in Pediatric Tonsillectomy



Case History

A 4-year-old male with history of 31 week prematurity, WNT10A gene mutation, autism, and restrictive diet.

1 year prior: Spontaneous bleeding around his PE tubes from three years ago

6 weeks prior: Adenotonsillectomy for sleep disordered breathing

Acute presentation: Brisk epistaxis and bloody otorrhea. During OR for control his tonsillar fossae and adenoid pad had raw granulation tissue similar to an immediate post-surgical appearance (Fig. 1 & 2). He had also been bleeding from his gums for 3-4 weeks.

7 weeks post-op: petechia.

9 weeks post-op: progressive gait change, refusal to bear weight

Clinical picture, nutrition labs, and multifocal lower extremity bone signal abnormalities on MRI lead to diagnosis of scurvy.

His symptoms improved after a week of high dose vitamin C supplementation.

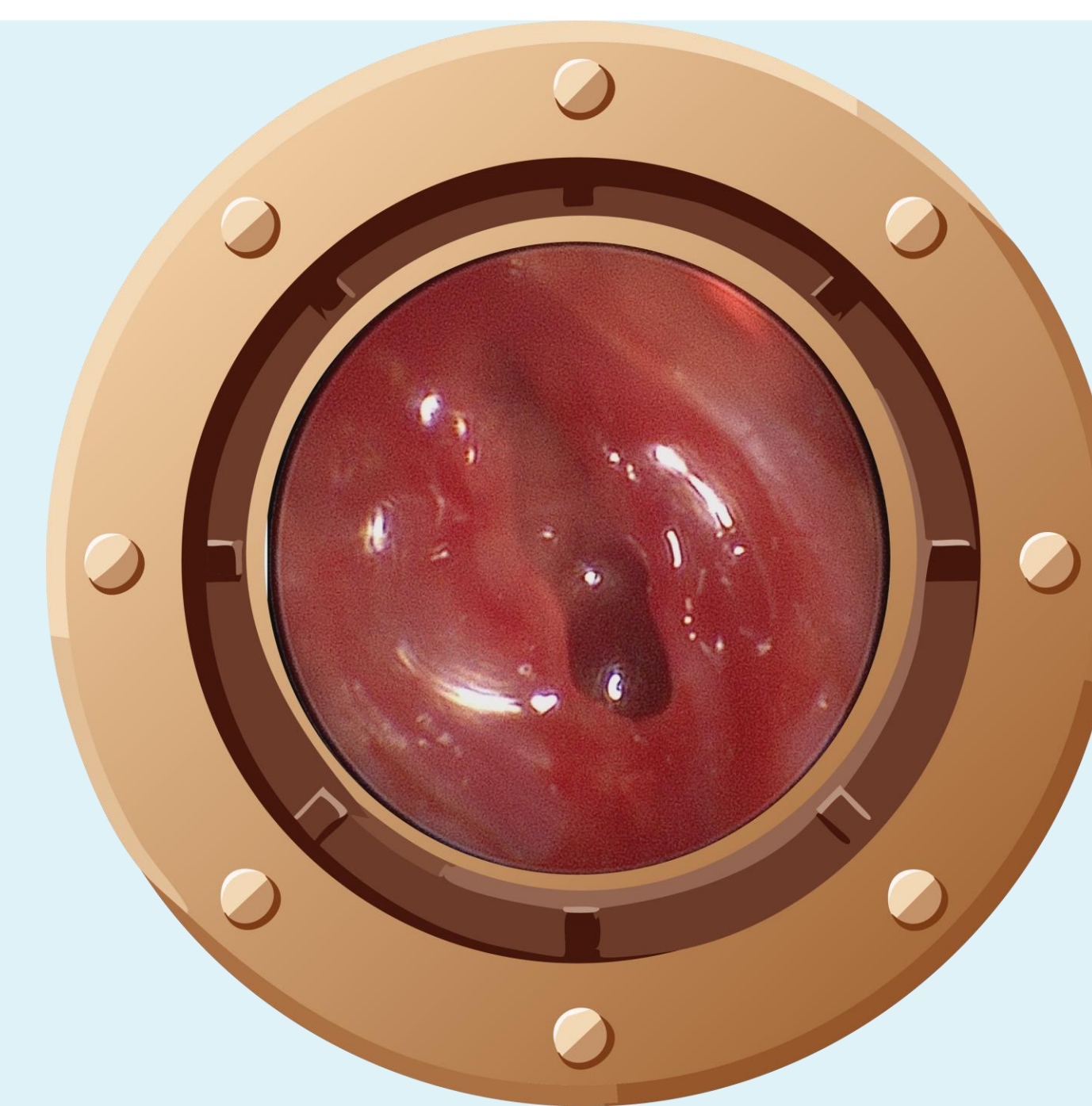


Figure 1: TM perforation 3 years after PET placement.

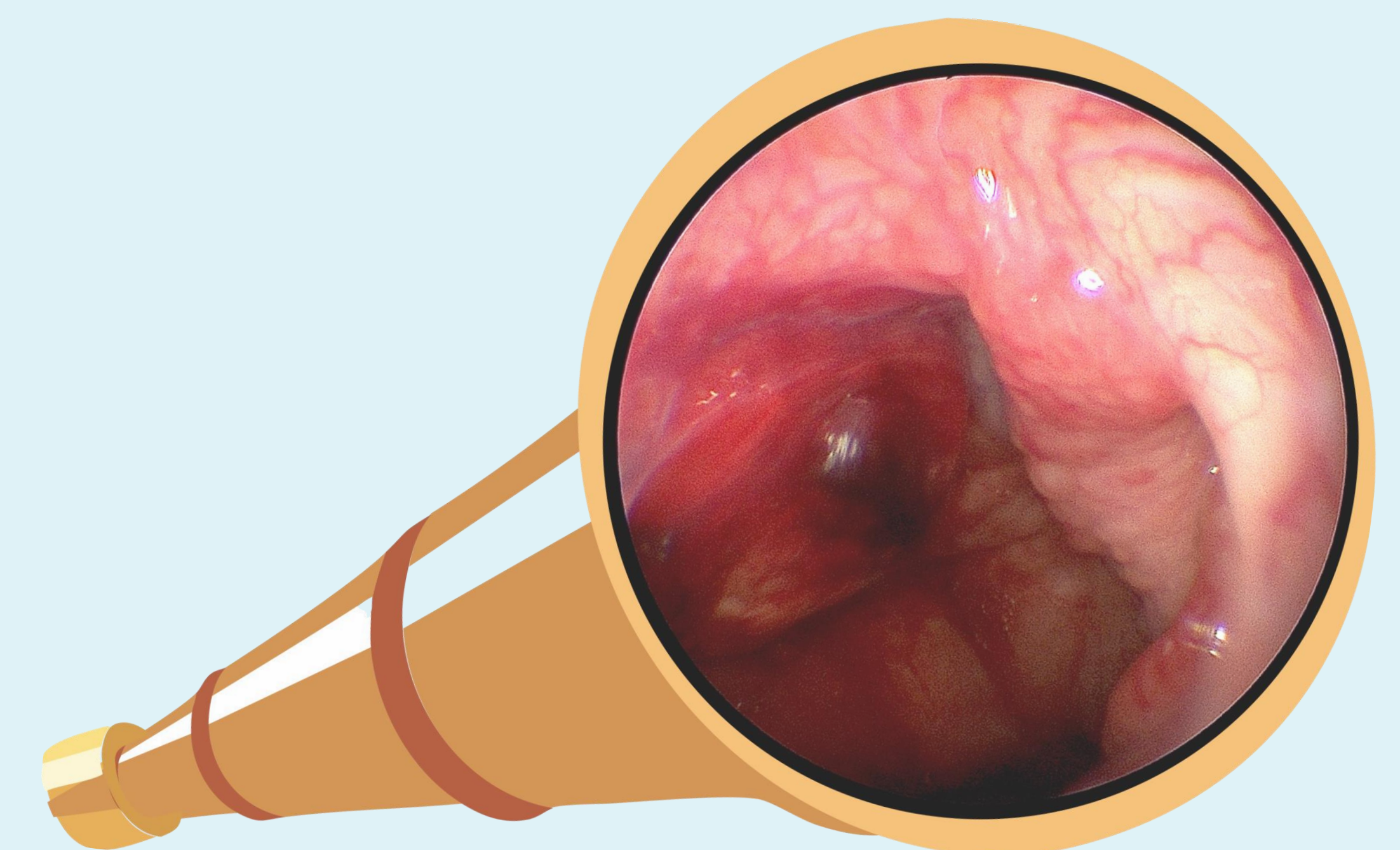


Figure 2: Adenoid pad 6 weeks post-op adenotonsillectomy

Discussion

- Scurvy is the clinical condition resulting from severe vitamin C deficiency with characteristic dermatologic, gingival, orthopedic, and wound healing findings.
- Lack of ascorbic acid for collagen synthesis results in susceptibility to subcutaneous, subperiosteal, and gingival bleeding. Inefficient bone metabolism causes diffuse osteopenia and characteristic imaging findings in long-bones. Poor wound healing and associated infection or hemorrhage can be fatal.
- Scurvy is rare in the developed world often resulting in delayed recognition, as was the case for this patient. The presence of bleeding from the gums at time of his post-op hemorrhages was in retrospect a clue.
- This patient's WNT10A mutation is associated with ectodermal dysplasia but not wound-healing or bleeding issues.
- The most common presenting sign in this age group is a limp.
- The diagnosis is made by clinically but can supported by vitamin C level and bone imaging. When there is clinical suspicion for scurvy a more comprehensive nutrition consultation and workup is warranted
- The incidence of scurvy is increasing in the pediatric age group and is associated with autism, restrictive diets, and high preference for single foods.

Conclusion

Scurvy is increasing in prevalence in the developed world and can present as poorly healing or regressing head and neck wounds including after surgery. The pediatric otolaryngologist should have an increased index of suspicion in children with food insecurity, restrictive diet, or autism.

References

- Kinlin LM, Weinstein M. Scurvy: old disease, new lessons. *Paediatr Int Child Health*. 2023;43(4):83-94. doi:10.1080/20469047.2023.2262787
- Sharp WG, Berry RC, Burrell L, Scallion L, McElhanon BO. Scurvy as a Sequela of Avoidant-Restrictive Food Intake Disorder in Autism: A Systematic Review. *J Dev Behav Pediatr*. 2020;41(5):397-405. doi:10.1097/DBP.0000000000000782
- Sharp W, Berry R, Burrell L, Scallion L, McElhanon B. Scurvy as a Sequela of Avoidant-Restrictive Food Intake Disorder in Autism: A Systematic Review. *Journal of Developmental & Behavioral Pediatrics*. 2020; 41 (5): 397-405. doi: 10.1097/DBP.0000000000000782.
- Schwetje D, Zillekens A, Kieback JD, Koob S, Placzek R. Infantile scurvy: Still a relevant differential diagnosis in Western medicine. *Nutrition*. 2020;75-76:110726. doi:10.1016/j.nut.2020.110726