

Introduction

A serious complication of appendectomy for perforated appendicitis in children is the formation of intraabdominal abscesses, which is seen in 14-20% of cases [1]. In recent years, *S. anginosus* has emerged as a significant organism in perforated appendicitis [2]. Children who had *S. anginosus* on culture at the time of appendectomy were reported to have a seven fold increased incidence of abscess formation compared to those with more common enteric bacteria [3].

We have noted an increase in the number of isolates of *S. anginosus* in cases at our regional medical center. It is a concern that *S. anginosus* is emerging as a significant pathogen in complicated appendicitis in the pediatric population, and it is reported to be associated with increased morbidity.

Methods

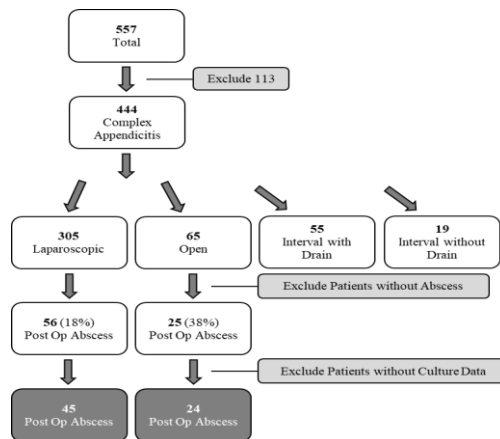


Figure 1. Flow chart showing results of the medical records search for post-operative appendiceal abscess, 2008-2017.

Results

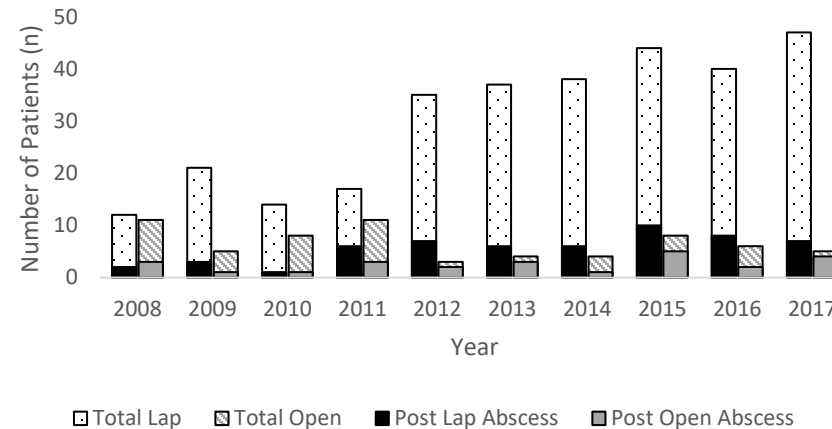


Figure 2. Emergency appendectomy for perforated appendicitis 2008-2017. The twin bars show laparoscopic cases on the left and open surgery on the right, with post-operative abscess represented by the shaded areas.

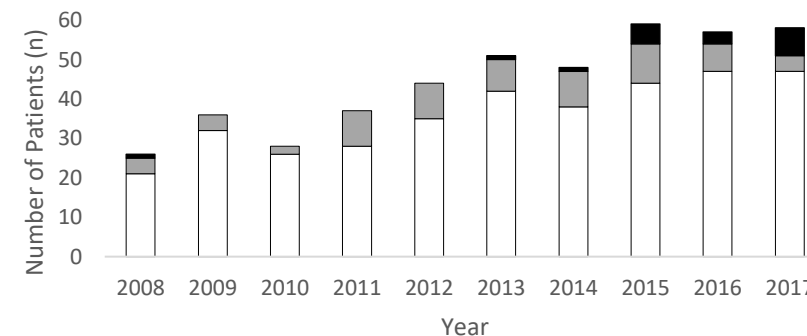


Figure 3. Total complicated appendectomy from 2008-2017. The shaded sections represent patients who got an abscess as a complication of their surgery, with *S. anginosus* abscess represented by the black area. The white area represents complicated appendectomy that did not result in a post-operative abscess.

Results Continued

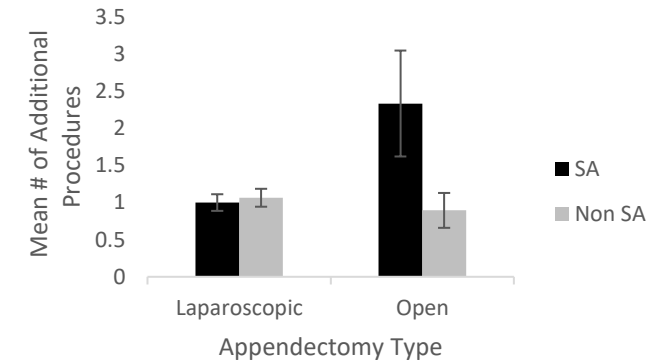


Figure 2. Average additional procedures (VIR + Return to OR) needed after initial surgery. There is a statistically significant difference between the SA and Non-SA group for open appendectomy, $p < 0.05$.

Conclusion

S. anginosus has emerged as an important and virulent pathogen in complex appendicitis in pediatric patients. It is sensitive to commonly used antibiotics, but it is associated with an increased risk of repeat procedures (reoperation, additional drainage) for the sicker patients who require an open appendectomy.

References

- [1] Fraser, Jason D., et al. "Physiologic Predictors of Postoperative Abscess in Children with Perforated Appendicitis: Subset Analysis from a Prospective Randomized Trial." *Surgery*, vol. 147, no. 5, 2010, pp. 729-732. doi:10.1016/j.surg.2009.10.057.
- [2] Subramanian, Thejasvi, et al. "Streptococcus Anginosus Is Associated with Postoperative Intraabdominal Collections in Appendicitis." *Journal of Pediatric Surgery*, vol. 53, no. 2, 2018, pp. 237-240. doi:10.1016/j.jpedsurg.2017.11.009.
- [3] Hardwick RH, et al. "Association between Streptococcus milleri and abscess formation after appendicitis." *Ann R Coll Surg Engl*, 2000;82(1):24-26.