Retropharyngeal and Parapharyngeal Abscesses in Children


Researchers from University of Louisville School of Medicine and University of Tennessee Health Science Center conducted a retrospective study to describe the epidemiology and hospital experience of US children diagnosed with parapharyngeal abscess (PPA) and retropharyngeal abscess (RPA). For the study, the researchers identified cases of RPA and PPA using ICD-9 codes in the Kids’ Inpatient Database (KID) for 2003, 2006, 2009, and 2012. KID includes data on inpatient pediatric admissions from dozens of states each year. For cases of RPA and PPA identified in KID, data on age, gender, management (surgical drainage or nonsurgical treatment), length of stay (LOS), and hospital charges were abstracted. Census data were used to generate nationally representative estimates of the incidence of RPA and PPA. Changes in incidence and rates of surgical management of both diagnoses during the 4-year study period were assessed statistically. Rates of RPA and PPA in children in different age groups were evaluated. In addition, costs and LOS for patients managed with surgical treatment or without surgery were compared.

During the 4-year study period there were 2,685 hospital discharges for PPA and 6,233 for RPA among individuals ≤20 years old; more boys were affected than girls across all age groups. Both RPA and PPA were more common from December to May in each of the study years. The incidence of RPA increased from 2.98 per 100,000 in 2003 to 4.10 per 100,000 in 2012 (P < .01), while the rate for PPA crested at 1.49 per 100,000 in 2006 and then plateaued. RPA and PPA were more common in those <5 years than among older children. Overall, 58.1% of children with PPA were treated with surgical drainage versus 46.7% of those with RPA (P < .001). During the study period the rate of surgical management for children with RPA decreased significantly but was stable among those with PPA. Hospital charges were approximately twice as high for children with both RPA and PPA treated surgically than in those managed without surgery (P < .001 for both RPA and PPA; median LOS was also significantly longer for those managed surgically (4 days vs 3 days for those treated without surgery for both RPA and PPA).

The authors conclude that hospitalization rates for children with RPA are twice as high as for PPA. Surgical management of both RPA and PPA was associated with higher costs and longer LOS.

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Dr. Brady has disclosed no financial relationship relevant to this commentary. This commentary does not contain a discussion of an unapproved/investigative use of a commercial product/device.

The authors of this study used a nationally representative sample to provide updated epidemiology and management trends of RPA and PPA in US children. Consistent with recent studies, the incidence of RPA continued to increase during the study period. However, because of the use of administrative data, the study did not allow determination of whether RPA was being diagnosed earlier because of more frequent CT imaging or whether the incidence was truly increasing. The contribution of the increasing incidence of methicillin-resistant Staphylococcus aureus (MRSA) infection also could not be ascertained. A retrospective review of children at Texas Children’s Hospital from 2002–2013 revealed that most cases of S aureus RPA were due to MRSA.

The results of the study demonstrated that many cases of RPA and PPA were managed with intravenous antibiotics without surgical drainage. Because these deep neck space abscesses have the potential to cause airway obstruction and spread to the mediastinum, the traditional management preference has been immediate surgical drainage. A recent limited meta-analysis of 8 studies suggested that the pooled success rate of medical therapy in avoiding surgical drainage in children with deep neck infections was 0.517 (95% CI, 0.335–0.700). The overall level of evidence was low, however, so the choice between first-line medical or surgical treatment is still a subject of debate.

Bottom Line: RPA may be increasing in incidence. Selected RPA and PPA cases may be managed without surgery, leading to shorter hospital LOS and lower costs.

References

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