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Approved CPD 6 points (Royal College of Ophthalmologists)

Abstracts

26 - Paediatric glaucoma surgery in the United States: Five-year incidence in the Intelligent Research in Sight registry and Optum data set

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Introduction: Glaucoma is rare in children, with few epidemiologic studies in the United States (US). Treatment is usually surgical with adjunctive medications. We sought to determine the annual incidence of paediatric glaucoma procedures performed in the US using two large nationwide patient datasets – the American Academy of Ophthalmology IRIS (Intelligent Research in Sight) Registry and Optum’s De-identified Clinformatics Data Mart (CDM).

Methods: Retrospective population-based study of children <21 years, using 1) the IRIS registry drawn from electronic health records in ophthalmology practices, from 2015-2019, and 2) claims data from CDM, a de-identified US commercial and Medical Advantage database, from 2014-2018. The incidences of angle surgery, trabeculectomy, glaucoma drainage device (GDD) implantation, cyclodestruction and other glaucoma procedures were determined by their respective Current Procedural Terminology (CPT) codes.

Results: The IRIS registry contained 11,751,635 unique patients, of which 2,191 underwent at least one procedure (0.02%). Annual incidence was 0.01% in 2015, and 0.02% between 2016-2019. Of 2,414 procedures, 472 (19.6%) were angle surgeries, 178 (7.3%) trabeculectomies, 1,079 (44.7%) GDDs, 427 (17.7%) cyclodestruction, and 258 (10.7%) other procedures. CDM included 10,433,629 patients, of which 274 underwent procedures (0.003%). Annual incidence 2014-2018 was 0.003%, except 2016 was 0.002%. Of 418 total procedures, 107 (25.6%) were angle surgeries, 45 (10.8%) trabeculectomies, 136 (32.5%) GDDs, and 79 (18.9%) cyclodestruction. Of 274, 19.0% had two procedures, 2.2% three, 2.2% four-five within one year.

Discussion: Few children undergo glaucoma procedures annually in the US; our estimates are comparable to population-based estimates from other countries. Our claims-based approach is limited by coding accuracy. We plan to use additional datasets to refine our estimate.