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Localized Non-Traumatic Ocular Granuloma in Children: A Clinico-Epidemiological Study in Anuradhapura, Sri Lanka

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Background: Ocular granulomas can result from a variety of infectious or non-infectious causes with a spectrum of ocular pathologies. In pediatric populations, particularly in tropical regions including Sri Lanka, Non-traumatic presumed infectious ocular granulomas have been increasingly reported.

Objective: To describe clinico-epidemiological characteristics related to localized non-traumatic ocular granuloma among Children in Anuradhapura district, Sri Lanka.

Methods: A descriptive cross-sectional study was conducted using an interviewer administered questionnaire and clinical records among children with localized non-traumatic ocular granuloma presenting to ophthalmology clinic, Teaching Hospital, Anuradhapura.

Results: A total of 29 children (mean age of 9.5 ± 2.6 years), between October 2024 and June 2025 were included. The majority (n=19, 65.5%) were boys. All patients presented with episcleral nodule predominantly unilateral (n=27, 93%). Redness (n=27, 93%), pain (n=14, 48%) and tearing (n=10, 34.4%) were the most common associated symptoms. Photophobia (n=4, 13.7%), foreign body sensation (n=3, 10.3%), itching (n=2, 6.8%) and eye discharge (n=1, 3.4%) were noted in minority. Four patients (13.7%), had recurrent episcleral nodules, with recurrence intervals ranging from one week up to seven years. All patients reported the regular use (n=24, 82.8%) or history of exposure (n=5, 17.2%) to open water sources before developing symptoms. Notably, over 70% (n=21) of these water sources were used by farm animals, mainly cows. Only 4 (13.7%) used traditional medicines (i.e., washing with pomegranate leaf decoction) before visiting the clinic. The initial medical management using eye drops containing corticosteroids, antibiotics, NSAIDs, and lubricants cured 44.8% (n=13) and the nodule was surgically excised in the rest. Histological assessment of excised granuloma revealed mixed inflammatory response.

Conclusion: Clinical manifestations and environmental exposure patterns observed, mostly align with known clinico-epidemiological characteristics of ocular trematode infections; however, the aetiological confirmation requires further exploration with advanced laboratory testing, species confirmation in particular.

Keywords: Clinico-epidemiology, Non-traumatic, Ocular granuloma