ISSN: 2754-4990

Journal of Ophthalmology Research Reviews & Reports

SCIENTIFIC Research and Community

Case Report

Open Access

Anterior Lenticonus Detected with Anterior Segment Imaging in a Patient with Systemic Manifestations

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Received: November 01, 2025; **Accepted:** November 06, 2025; **Published:** November 15, 2025

Background
Anterior lenticonus is a rare, progressive protrusion of the anterior lens surface, often associated with systemic conditions such as Alport syndrome, which may present with renal dysfunction and sensorineural hearing loss. Early recognition is crucial for visual rehabilitation, timely surgical intervention, and systemic evaluation. Clinical diagnosis can be challenging, especially in subtle cases, and conventional slit-lamp examination may not provide sufficient detail on lens morphology. Advanced anterior segment imaging, such as the MS-39 system, allows for high-resolution cross-sectional visualization of the lens, providing objective, reproducible documentation that can guide diagnosis and management.

Hypothesis
High-resolution anterior segment imaging can detect anterior lenticonus with greater precision than slit-lamp examination alone and can provide valuable information for surgical planning and systemic evaluation in patients with associated systemic manifestations.

Objective
To highlight the role of anterior segment imaging (MS-39) in detecting anterior lenticonus in a patient presenting with ocular, auditory, and renal symptoms.

Methodology
A female patient presented with visual complaints, bilateral hearing impairment, and a history of renal dysfunction. Slit-lamp examination was performed, revealing a characteristic "oil droplet" reflex suggestive of anterior lenticonus. High-resolution anterior segment imaging using the MS-39 system was conducted to:

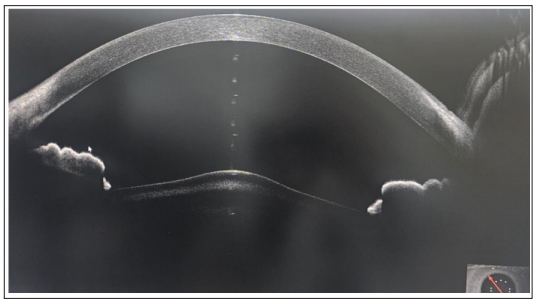
- Confirm the presence of Anterior Lenticonus
- Assess corneal and anterior chamber integrity.
- Measure lens curvature, thickness, and anterior chamber depth
- Document findings for longitudinal follow-up and potential surgical planning.

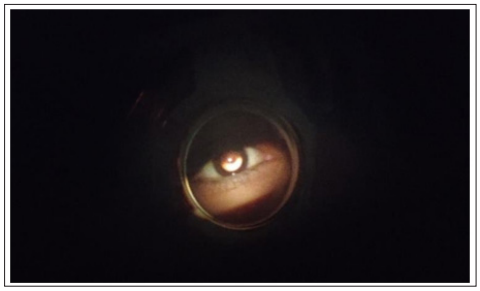
Results
Slit-lamp examination demonstrated conical protrusion of the anterior lens surface in both eyes with the typical oil droplet reflex.

MS-39 imaging confirmed anterior lenticonus, providing detailed cross-sectional visualization of the lens curvature and thickness. Anterior chamber configuration and corneal integrity were normal. Systemic evaluation findings (renal impairment and hearing loss) were consistent with features of Alport syndrome, correlating with ocular findings.

Discussion
Anterior lenticonus may be overlooked during routine ocular examination, particularly in early stages. Systemic manifestations such as renal dysfunction and hearing loss should prompt detailed ocular evaluation. Anterior segment imaging provides precise, reproducible, and objective data on lens morphology, facilitating early diagnosis and informed surgical planning. The ability to quantify lens curvature and anterior chamber depth enhances preoperative assessment and allows for longitudinal monitoring of disease progression. Multidisciplinary management, integrating ophthalmic and systemic care, is critical for optimal patient outcomes.

Conclusion
Anterior segment imaging with the MS-39 system is an invaluable tool for detecting anterior lenticonus, especially in patients with systemic manifestations. It enables early diagnosis, objective documentation, surgical planning, and holistic patient management [1-5].





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