Managing keratoconus

Keratoconus remains one of those tricky pathologies that continues to confound. Except in extreme cases, there are no highly specific signs or symptoms. Systemic associations are rare.

The Rizzutti sign is simple but rarely sought. The Munson sign, Fleischer ring and Vogt lines indicate more advanced pathology, by which time the diagnosis is quite obvious. The patient might experience stable or progressively worsening visual acuity. Once other, more common causes of vision loss have been ruled out, the clinician might consider keratoconus based on the astigmatism discovered by autorefraction.

Once a tomographic map has been made, the basic diagnosis is usually pretty simple. But now what? This is where the real work begins, trying to make sense of the colourful printout. Is it mild, moderate or severe? Stable or progressive? What’s the prognosis? Classification? Management?

Fortunately, new and up-to-date reference texts are being published every few months. Dr Sinjab’s most recent effort is one of these. Keratoconus: When, Why and Why Not – A Step by Step Systematic Approach, takes the clinician through the various steps necessary once the diagnosis has been made.

The book is only four chapters and 140 pages long. The first half is made up of information on classification and management. The second half is made up of case studies and self-assessments.

Chapter 1 instructs the reader on how to classify the keratoconus using the various morphologic, tomographic and AmSler-Krumbein systems. The author even offers his own new system based on his first 400 cases of intracorneal rings with at least six months’ follow-up, which reveals prognostic factors affecting the response to the rings.

Management of keratoconus is the topic of the second chapter. Treatments are divided into non-interventional – glasses and contact lenses – and interventional modalities. This is where the book gets interesting. Each surgical procedure is discussed and interesting questions are posed. Why has conductive keratoplasty been largely abandoned? Answer: due to its unpredictability. In which situation is a penetrating keratoplasty most useful? Answer: in cases with significant corneal scarring. Indications for surgery are discussed, as are absolute and relative contraindications, considerations for preoperative discussion and postoperative follow-up and practical notes useful for during surgery.

Although it comes later in the chapter, management parameters and a systematic plan for managing keratoconus is where the book’s title comes into play: “When, Why and Why Not?” The author’s systematic approach is outlined in a series of flow charts that take a series of factors into consideration to determine a surgical plan. They include the following six (groups of) factors: 1. corneal transparency and Vogt’s striae; 2. age; 3. progression; 4. contact lens tolerance; 5. refractive error; 6. visual acuity, measured in various ways. Determining these factors and then following the flow charts allows the clinician to determine the ideal treatment modality.

The reader is then invited to practise this new knowledge and systematic approach in a series of nine case studies. Each case covers four to five pages, starting with a patient’s clinical history, slit lamp examination, refractive values and corneal tomography. This is followed by three steps: analysing step; management suggestions; and discussion step. These steps are particularly useful in the next chapter, “Self Assessment,” a pared-down version of chapter 3 in which the reader is required to solve the cases alone, with only minimal assistance from the author.

This book is ideal for ophthalmology residents interested in developing their clinical and decision-making skills during their cornea rotation; cornea fellows expected to start making these decisions independently; and general ophthalmologists looking to sharpen their treatment regime for keratoconus.

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