

Inflammatory bowel disease: Clinical screening and transition of care

Inflammatory bowel disease (IBD), a chronic immune-mediated disorder encompassing Crohn's disease and ulcerative colitis, has the highest prevalence in North America and Europe.^[1] The incidence of IBD, however, has been increasing in low prevalence regions such as Asia and the Middle East.^[2] The Kingdom of Saudi Arabia (KSA) is one region where this pattern has been noted and described.^[3-5] The increase in incidence and prevalence of IBD in this region highlights the importance of early recognition and accurate diagnosis.

A delay in the diagnosis of Crohn's disease has been associated with inferior outcomes such as the development of obstructive complications and need for surgery.^[6] Multiple factors can account for a delay in the diagnosis of Crohn's disease. One of the most vital reasons is the symptom overlap with other etiologies such as irritable bowel syndrome (IBS). For example, the Crohn's disease activity index (CDAI) (although not a diagnostic tool by design) was found to be similarly elevated in IBS and Crohn's disease patients.^[7] Accordingly, there is a need for a clinical discriminatory tool to assist in the prediction of underlying Crohn's disease in these patients.

The red flags index score (RFS) was recently developed as a clinical tool to predict early diagnosis of Crohn's disease.^[8] The 8 variables included in the final score are: (1) Nonhealing or complex perianal fistula or abscess or perianal lesions (apart from hemorrhoids); (2) first-degree relative with confirmed IBD; (3) weight loss (5% of usual body weight) in the last 3 months; (4) chronic abdominal pain (>3 months); (5) nocturnal diarrhea; (6) mild fever in the last 3 months; (7) no abdominal pain 30–45 min after meals, predominantly after vegetables; (8) no rectal urgency. An RFS ≥ 8 was significantly associated with having Crohn's disease compared to IBS and healthy controls with a sensitivity and specificity of 0.94 (95% CI: 0.88–0.99) and 0.94 (95% CI: 0.90–0.97), respectively, and an area under the curve of 0.97 (95% CI: 0.94–0.99).^[8]

In this issue of the journal, Mosli *et al.* assess the pattern of the RFS in a population of IBS patients.^[9] The authors

prospectively surveyed 255 IBS patients at a general medicine clinic in KSA. The survey comprised 7 RFS questions (excluded rectal urgency). The main outcome was to assess the prevalence of an RFS >5 indicating the need for ileocolonoscopy. In this cohort, 54.9% of the patients had an RFS >5. On multivariate regression analysis, lack of evaluation by a gastroenterologist was a significant predictor of an RFS >5 (OR 2.2; 95% CI 1.3–3.7; $P = 0.003$). The authors conclude that a large portion of patients might be misdiagnosed with IBS and the lack of a gastroenterologist evaluation is associated with a high RFS. This is an intriguing study that evaluated the prevalence of an elevated RFS in a population of IBS patients.

Multiple limitations are important to note that have been addressed by the authors. For one, patients with an elevated RFS did not undergo objective evaluation such as an ileocolonoscopy or fecal calprotectin. Hence, the inference of misdiagnosis cannot be fully ascertained, even though the score performed well in the initial development phase. Another limitation is generalizability as this study was performed on a population from a tertiary referral center and may not apply to patients evaluated in community practice settings. Nevertheless, this study highlights the prevalence of red flag symptoms in IBS patients and the importance of referring such patients to a gastroenterologist.

A rise in the incidence of IBD has also been demonstrated in the pediatric population. Two recently published population studies in France and Finland documented an increase in the incidence of early-onset IBD.^[10,11] El Mouzan *et al.* described an increase in the incidence of pediatric IBD in KSA.^[12] In their study, they noted an incidence rate of pediatric IBD of 0.47 per 100,000 children per year in 2012 compared to 0.25 per 100,000 children per year in 2003.^[12] Eventually, this growth of the pediatric IBD population will culminate in an increase in the number of patients that will transition to adult IBD care. Successful transition of care from the pediatric to adult clinic is a vital step in the management of IBD patients that requires careful planning and a structured system. In adolescent IBD patients, a structured transition

system has been associated with improved outcomes such as rates of hospitalization, need for surgery, medication adherence, and clinic visit attendance.^[13]

Another article in this issue aimed to evaluate the current state of IBD transition of care in KSA by surveying pediatric and adult gastroenterologists.^[14] The authors performed a nation-wide survey that was distributed to all pediatric and adult gastroenterologists in the country. The survey included close-ended questions regarding current transition practices, preferred methods of transition, and factors affecting transition of care in IBD. The survey response rate was 26% (80/306). An overwhelming majority of responders (74%) do not follow a transition of care protocol and 79% rated having such a protocol as “very important.” Potential barriers to having a successful transition protocol that were rated as “very important” were poor coordination between care providers (59%) and difficulty in accessing medical records (54%). Good collaboration between stakeholders and patients’ knowledge of their underlying condition and medications were rated as “very important” by about two-third of the responders. This study demonstrates the paucity of structured IBD transition of care programs in KSA. However, findings are limited by the use of a nonvalidated questionnaire and low response rate of 26%. However, these findings should act as a calling to further study a nation-wide IBD transition program. Multiple societal documents have provided guidelines on transition of care in IBD patients that can be utilized to develop such a system.^[15-17]

The rising incidence of IBD in KSA has multiple implications that are highlighted in the two studies published in this issue of the Journal. Screening for IBD using the RFS in IBS patients is an intriguing proposal. To better elucidate the prevalence of a high RFS in this patient population, larger multicenter studies are warranted. Ideally, these studies will also investigate the real life correlation of a high RFS with objective measures of inflammation such as ileocolonoscopy. With the rising incidence of pediatric IBD, effective transition to adult care should be thoroughly investigated. Initially, a validated questionnaire with a higher response rate can investigate barriers, challenges, and preference of a transition of care system. This can be followed by measuring clinical outcomes before and after implementing a structured transition system.

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REFERENCES

- Loftus EV Jr. Clinical epidemiology of inflammatory bowel disease: Incidence, prevalence, and environmental influences. *Gastroenterology* 2004;126:1504-17.
- Molodecky NA, Soon S, Rabi DM, Ghali WA, Ferris M, Kaplan GG, *et al.* Increasing incidence and prevalence of the inflammatory bowel diseases with time, based on systematic review. *Gastroenterology* 2012;142:46-54.
- Al-Mofarreh MA, Al-Mofleh IA. Emerging inflammatory bowel disease in Saudi outpatients: A report of 693 cases. *Saudi J Gastroenterol* 2013;19:16-22.
- Alharbi OR, Azzam NA, Almalki AS, Almadi MA, Alswat KA, Sadaf N, *et al.* Clinical epidemiology of ulcerative colitis in Arabs based on the Montreal classification. *World J Gastroenterol* 2014;20:17525-31.
- Ananthkrishnan AN. Epidemiology and risk factors for IBD. *Nat Rev Gastroenterol Hepatol* 2015;12:205-17.
- Schoepfer AM, Dehlavi MA, Fournier N, Safroneeva E, Pittet V, Michetti P, *et al.* Diagnostic delay in Crohn’s disease is associated with a complicated disease course and increased operation rate. *Am J Gastroenterol* 2013;108:1744-53.
- Lahiff C, Safaie P, Awais A, Akbari M, Gashin L, Sheth S, *et al.* The Crohn’s disease activity index (CDAI) is similarly elevated in patients with Crohn’s disease and in patients with irritable bowel syndrome. *Aliment Pharmacol Ther* 2013;37:786-94.
- Danese S, Fiorino G, Mary JY, Lakatos PL, Moja L, Panes J, *et al.* Development of Red Flags Index for Early Referral of Adults with Symptoms and Signs Suggestive of Crohn’s Disease: An IOIBD Initiative. *J Crohns Colitis* 2015;9:601-6.
- Mosli M, Bamarhul M, Alharbi A, Shafei S, Alharbi A, Bamahfouth K, *et al.* Screening irritable bowel syndrome patients for symptoms predictive of Crohn’s disease using the red flag score. *Saudi J Gastroenterol* 2017;23:229-32.
- Bequet E, Sarter H, Fumery M, Vasseur F, Ley D, Turck D, *et al.* Incidence and Phenotype at Diagnosis of Very-early-onset Compared with Later-onset Paediatric Inflammatory Bowel Disease: A Population-based Study [1988-2011]. *J Crohns Colitis* 2016.
- Virta LJ, Saarinen MM, Kolho KL. Inflammatory Bowel Disease Incidence is on the Continuous Rise Among All Paediatric Patients Except for the Very Young: A Nationwide Registry-based Study on 28-Year Follow-up. *J Crohns Colitis* 2017;11:150-6.
- El Mouzan MI, Saadah O, Al-Saleem K, Al Edressi M, Hasosah M, alnazi A, *et al.* Incidence of pediatric inflammatory bowel disease in Saudi Arabia: A multicenter national study. *Inflamm Bowel Dis* 2014;20:1085-90.
- Cole R, Ashok D, Razack A, Azaz A, Sebastian S. Evaluation of Outcomes in Adolescent Inflammatory Bowel Disease Patients Following Transfer From Pediatric to Adult Health Care Services: Case for Transition. *J Adolesc Health* 2015;57:212-7.
- Al-Jahdali E, Mosli M, Saadah O. A cross-sectional survey of Saudi gastroenterologists: Transition strategies for adolescents with inflammatory bowel disease. *Saudi J Gastroenterol* 2017;23:233-7.
- Brooks AJ, Smith PJ, Cohen R, Collins P, Douds A, Forbes V, *et al.* UK guideline on transition of adolescent and young persons with chronic digestive diseases from paediatric to adult care. *Gut* 2017;66:988-1000.
- Leung Y, Heyman MB, Mahadevan U. Transitioning the adolescent inflammatory bowel disease patient: Guidelines for the adult and pediatric gastroenterologist. *Inflamm Bowel Dis* 2011;17:2169-73.

17. Baldassano R, Ferry G, Griffiths A, Mack D, Markowitz J, Winter H. Transition of the patient with inflammatory bowel disease from pediatric to adult care: Recommendations of the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition. *J Pediatr Gastroenterol Nutr* 2002;34:245-8.

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Access this article online	
Quick Response Code:	Website: www.saudijgastro.com
	DOI: 10.4103/sjg.SJG_294_17

How to cite this article: Al-Bawardy B. Inflammatory bowel disease: Clinical screening and transition of care. *Saudi J Gastroenterol* 2017;23:213-5.

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