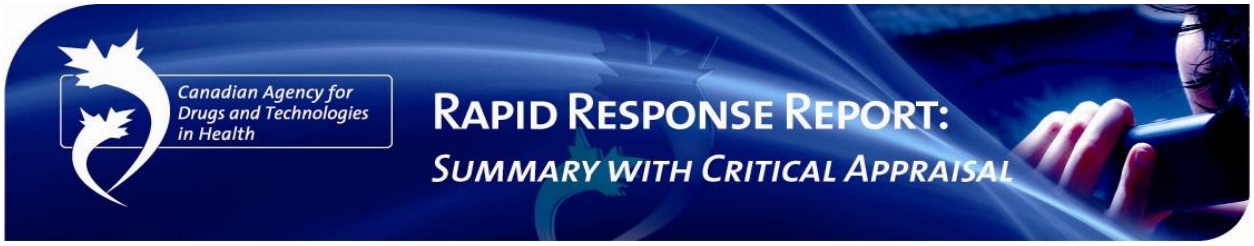

TITLE: Urgent Immunochemical Fecal Occult Blood Testing for Patients with Suspected Gastrointestinal Bleeding: Clinical Evidence and Guidelines

DATE: 28 September 2012

CONTEXT AND POLICY ISSUES

Stool sampling is one method of testing for the presence of gastrointestinal (GI) blood. Occult bleeding is diagnosed by a positive fecal occult blood test (FOBT) result or iron deficiency anemia in the absence of visible blood loss.[1] FOBT is used in outpatients to screen for colorectal cancer, in high-risk hospitalized patients to monitor GI bleeding, and in the emergency department setting to detect bleeding caused by trauma or other conditions.[2] FOBT may be guaiac-based (gFOBT) or immunochemical (iFOBT or FIT). Guaiac-based FOBT detects hemoglobin by the presence of a peroxidase reaction.[3] Immunochemical tests use antibodies to detect the globulin portion of human hemoglobin.[1] Most commonly, samples are sent to a central laboratory for processing of non-urgent requests such as during population-based screening for colorectal cancer. For urgent requests, point of care testing or other types of testing (e.g., satellite, bedside etc.) may be more expedient than using a central laboratory.

The purpose of this report is to determine if the use of urgent immunochemical fecal occult blood testing in non-screening situations improves patient outcomes.

RESEARCH QUESTIONS

1. What is the clinical evidence that the results of an urgent immunochemical fecal occult blood test, used for non-screening purposes, lead to improved patients outcomes?

2. What are the evidence-based guidelines regarding the use of urgent or non-screening immunochemical fecal occult blood testing?

KEY MESSAGE

No clinical trials were identified that have investigated whether the use of urgent immunochemical fecal occult blood test in non-screening situations improves patient outcomes. Similarly, no clinical practice guidelines were identified.

METHODS

Literature Search Strategy

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2012, Issue 8), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2007 and September 5, 2012. Internet links were provided, where available.

Selection Criteria and Methods

One reviewer screened the titles and abstracts of the retrieved publications and evaluated the full-text publications for the final article selection, according to selection criteria presented in Table 1.

Table 1: Selection Criteria

Population	Patients in the emergency room, intensive care unit, or hospital who are undergoing a rectal exam to check for gastrointestinal bleeding
Intervention	Immunochemical fecal occult blood testing or immunochemical fecal testing using point of care or other types of testing
Comparator	None or any
Outcomes	Improved patient care; change in patient treatment pathway
Study Designs	Health technology assessments (HTA), systematic reviews (SR), meta-analyses (MA), randomized control trials (RCTs), non-randomized trials, and guidelines for the use of urgent or non-screening immunochemical fecal occult blood testing

Exclusion Criteria

Studies were excluded if they did not satisfy the selection criteria in Table 1, if they were published prior to 2007, or if they were duplicate publications of the same study.

SUMMARY OF FINDINGS

The literature search yielded 248 citations. Upon screening titles and abstracts, 13 potentially relevant articles were retrieved for full-text review. Upon consulting other sources such as the grey literature, one other potentially relevant report was retrieved. None of the 14 potentially

relevant articles met the inclusion criteria. The study selection process is outlined in a PRISMA flowchart (Appendix 1). Exclusions were made based on wrong intervention (4),[4-7] wrong outcomes (2),[8,9] and wrong population (8).[2,3,10-15]

CONCLUSIONS AND IMPLICATIONS FOR DECISION OR POLICY MAKING

Whether or not the use of urgent iFOBT in non-screening situations improves patient care and outcomes is unknown.

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REFERENCES

1. Travis AC, Saltzman JR. Evaluation of occult gastrointestinal bleeding. 2012 [cited 2012 Sep 14]. In: UpToDate [Internet]. Version 20.8. Waltham (MA): UpToDate; c1992 - . Available from: www.uptodate.com.

2. Melanson SF, Petersen J, Lewandrowski KB. Occult blood [Internet]. In: Nichols JH, editor. Laboratory medicine practice guideline: evidence-based practice for point-of-care testing. Springfield (MA): The National Academy of Clinical Biochemistry; 2006. p. 95-104. Chapter 9 [cited 2012 Sep 17]. (Archived version). Available from: http://www.aacc.org/SiteCollectionDocuments/NACB/LMPG/POCT/POCT%20Entire%20LMPG.pdf.

3. Efthymiou M, Allen PB, Jayasekera C, Taylor PV, Taylor AC. Value of fecal occult blood test as a screening test before capsule endoscopy. Eur J Gastroenterol Hepatol. 2011 Aug;23(8):690-4.

4. Goetzl MA, Outman JE, Griebling TL, Holzbeierlein JM, Weigel JW, Thrasher JB. Digital fecal occult blood testing in the ambulatory urology clinic. J Am Coll Surg. 2008 Jan;206(1):144-7.

5. Shaw AG, Lund JN, Longman C, Tierney GM, Goddard AF. The misuse of the faecal occult blood test under the lower gastrointestinal two week wait rule. Colorectal Dis. 2009 Jan;11(1):94-6.

6. Ioannou GN, Spector J, Rockey DC. Predictors of endoscopic and laboratory evaluation of iron deficiency anemia in hospitalized patients. South Med J. 2007 Oct;100(10):976-84.

7. Kessler C, Bauer SJ. Utility of the Digital Rectal Examination in the Emergency Department: A Review. J Emerg Med. 2012 Aug 7.

8. Adams BD, McHugh KJ, Bryson SA, Dabulewicz J. The law of unintended consequences: The Joint Commission regulations and the digital rectal examination. Ann Emerg Med. 2008 Feb;51(2):197-201, 201.

9. Cleveland NJ, Yaron M, Ginde AA. The effect of removal of point-of-care fecal occult blood testing on performance of digital rectal examinations in the emergency department. Ann Emerg Med. 2010 Aug;56(2):135-41.

10. Levi Z, Gal E, Vilkin A, Chonen Y, Belfer RG, Fraser G, et al. Fecal immunochemical test and small bowel lesions detected on capsule endoscopy: results of a prospective study in patients with obscure occult gastrointestinal bleeding. Eur J Gastroenterol Hepatol. 2011 Nov;23(11):1024-8.

11. Levi Z, Rozen P, Hazazi R, Vilkin A, Waked A, Maoz E, et al. A quantitative immunochemical fecal occult blood test for colorectal neoplasia. Ann Intern Med. 2007 Feb 20;146(4):244-55.

12. Kok L, Elias SG, Witteman BJ, Goedhard JG, Muris JW, Moons KG, et al. Diagnostic accuracy of point-of-care fecal calprotectin and immunochemical occult blood tests for

diagnosis of organic bowel disease in primary care: the Cost-Effectiveness of a Decision Rule for Abdominal Complaints in Primary Care (CEDAR) study. Clin Chem. 2012 Jun;58(6):989-98.

13. Cilona A, Zullo A, Hassan C, Ridola L, Annese M. Is faecal-immunochemical test useful in patients with iron deficiency anaemia and without overt bleeding? Dig Liver Dis. 2011 Dec;43(12):1022-4.

14. Betson M, Sousa-Figueiredo JC, Kabatereine NB, Stothard JR. Use of fecal occult blood tests as epidemiologic indicators of morbidity associated with intestinal schistosomiasis during preventive chemotherapy in young children. Am J Trop Med Hyg. 2012 Aug 27.

15. Jain S, Das S, Gupta P. Fecal occult blood screening in children with severe malnutrition. Indian Pediatr. 2007 Dec;44(12):913-5.

APPENDIX 1: Selection of Included Studies