

Diagnostic Utility of the Digital Rectal Examination as Part of the Routine Pelvic Examination

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The digital rectal examination (DRE) is an uncomfortable procedure that adds time to the routine pelvic examination. Patients may postpone or defer their pelvic examination because of this discomfort. Although commonly recommended and performed, there is little evidence that this screening test provides unique or useful information. The goal of this project was to determine the diagnostic yield of routine DRE in otherwise healthy female patients who were younger than 40 years of age at the time of the examination.

A total of 272 DREs were documented. Case findings were recorded in 8 (3%) of the patients. One notation reflected a previous diagnosis of ulcerative colitis; the rest of the findings were incidental. None of these findings were categorized as diagnostic, producing a diagnostic yield of 0 (95% confidence interval, 0 to 1.35). The results of this study do not support the continued use of the DRE as part of the routine pelvic examination in women younger than 40 years old.

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The medical literature presents contradictory recommendations regarding the digital rectal examination (DRE) in women. While the DRE is not recommended as a screening test for colorectal cancer in either men or women younger than 40 years of age,^{1,4} it is set forth by many authorities as a standard aspect of the routine pelvic examination in women of all ages. The DRE is advocated to determine the degree of posterior vaginal wall relaxation, to feel for a prolapsed ovary or metastatic masses from abdominal carcinoma, or to determine the presence of a thickening of the rectovaginal septum.⁵⁻⁸

The diagnostic utility of this examination is not known, however. Tompkins⁹ reported that he kept a record of positive results of the DRE performed during his 50 years of practice as an obstetrician-gynecologist. Although he identified "scores" of rectoceles, enteroceles, and prolapses that did not require rectal examination for diagnosis, the only

pertinent disease discovered during this time were three cases of rectal polyps.

The digital rectal examination is an uncomfortable procedure, and women may postpone or defer their pelvic examination because of this discomfort.^{10,11} Our study was a preliminary, retrospective investigation into the prevalence of clinically significant disease detected by DRE. The goal of this project was to determine the diagnostic yield of routine DRE in otherwise healthy female patients who are younger than 40 years of age.

METHODS

Our retrospective study was conducted at the Family Practice Center in Mechanicsburg, Pennsylvania, a practice affiliated with a family practice residency program. The practice serves a predominantly white, suburban, middle-class population with an average of 25,000 patient visits per year. Approximately 2000 pelvic examinations are performed each year.

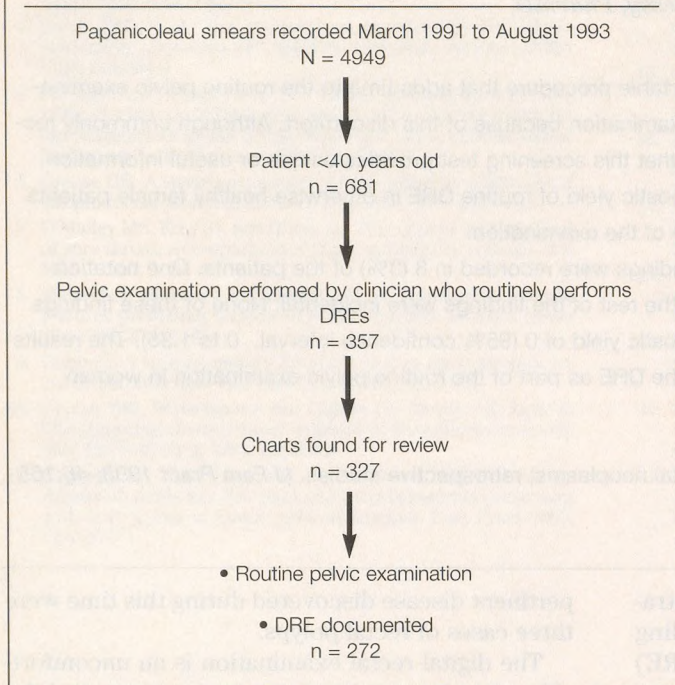
Charts of consecutive patients younger than 40 years old who had had a pelvic examination were included for review. Patients examined by residents were excluded, as were patients of faculty physicians who did not include routine DRE as part of their routine pelvic examination. Pelvic

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FIGURE

Method used to identify patients to determine the rate of documentation of clinical findings identified by digital rectal examination (DRE) when performed as part of a routine pelvic examination.



examinations and DRE were also excluded if they were done for a specific reason, and therefore were not "routine." Since the period of this study extended over several years, we identified patients forward in time and excluded subsequent pelvic examinations in previously identified patients.

Charts for review were identified by use of a "Pap Smear Log" that has been in place at the practice for the past 7 years. The name, date of birth, and examining clinician of every patient who undergoes a Papanicolaou smear is recorded in this log to assure that every patient is called and told of the results of her test. By using this log, we were able to identify every patient younger than 40 years of age at the time of the pelvic examination, as well as the clinician performing the examination.

Only patient charts with documentation of DRE during the pelvic examination were included for further review. Patient records identified for inclusion in this study were abstracted by trained medical records abstractors. Most records in the practice have a preprinted sheet that is used to document the results of a pelvic examination, including a specific prompt for rectal examination findings and heme

testing of stool samples. The progress note was abstracted if the preprinted sheet was not used.

Abstractors categorized DRE results as "positive," "negative," or "not performed." Any clinical findings recorded by the clinician were considered "positive" results by the abstractors.

All charts of patients with positive findings were reviewed by one of the investigators (K.A.C.). Positive results were categorized as "diagnostic," "confirmatory," or "incidental." An examination was categorized as diagnostic if it led to a new diagnosis that could not have been made without the DRE. Confirmatory findings were those that validated a diagnosis made by other tests or examinations. Incidental results were physical findings that did not lead to a diagnosis, but were notes of the examination that were recorded by the examiner (eg, hemorrhoids).

The accuracy of the findings were determined by a chart review for further workup. The diagnostic yield of the DRE was assessed by determining the number of patients with diagnostic findings documented in the visit notes that were confirmed by further workup. Confidence intervals were calculated using the

Poisson distribution.¹²

RESULTS

A total of 4949 Papanicolaou smears were recorded between March 1991 and August 1993. After excluding patients older than 40 years of age, repeat examinations, and nonroutine examinations, 357 eligible patient charts were identified (Figure). Of the 357 patient charts, 327 (92%) were available for review.

Digital rectal examinations were documented in 272 of these routine pelvic examinations. A total of eight findings were documented. Incidental findings (hemorrhoids, stool in rectum, and vaginal scar) were documented in seven patients (95% confidence interval [CI], 1.04 to 5.3). A confirmatory finding of colitis was documented for one patient (95% CI, 0.01 to 2.04). No diagnostic findings were documented. The diagnostic yield of the DRE was 0 (95% CI, 0 to 1.35).

Subsequent to the index cases, 204 women received an additional 384 DREs during which seven incidental or confirmatory findings (2%) were documented. One patient had multiple DREs in conjunc-

tion with stool samples testing positive for occult blood. Follow-up abdominal computerized tomography and ultrasound were negative. The final diagnosis in this patient was bleeding hemorrhoids.

DISCUSSION

This retrospective study of 272 digital rectal examinations performed as part of the routine pelvic examination in women younger than 40 years of age resulted in a diagnostic yield of zero. Using the 95% confidence interval, the DRE could be clinically useful in up to 1 of every 100 patients. The other 99 patients would undergo this examination without benefit.

Diagnostic case findings typically are low with routine tests. Boland and colleagues¹³ evaluated the diagnostic yield of laboratory tests conducted as part of the comprehensive ambulatory medical examination. In 289 patients receiving a standard 11-item chemistry panel, only six diagnoses were made as a result of the 3179 (289 patients \times 11 items) tests performed. Similarly, routine urinalysis had a diagnostic yield of only 0.8%.

The concern for the cost of these low-yield tests has caused a reassessment of their use. Although the DRE is not as expensive as blood testing, it may have other nonmonetary costs. The DRE is an uncomfortable invasive procedure that may be distressing to some patients. The impetus for this study was the suspicion that women might avoid routine pelvic examination because of the discomfort of the DRE, thereby missing the more useful aspects of the examination. While this study does not verify the avoidance of pelvic examinations, it does provide support for dropping the DRE from the routine pelvic examination because of lack of diagnostic yield.

The results of this study could be low due to distorted assembly.¹⁴ We did not choose each patient's first DRE for evaluation. Previous rectal examinations in these patients could have identified important findings that would have been addressed or would have removed the patient from our cohort. In addition, we did not include patients examined by a resident or by faculty who did not routinely perform the DRE, and these exclusions could have affected our findings.

A second concern of this study is that, despite extensive efforts, we were able to locate only 92% of the charts of patients for whom a Papanicolaou

smear was recorded. Poor handwriting on the log sheet as well as name changes due to marriage are the probable reasons for not being able to find these charts. To increase the number of available charts, we used a name-finder system that is part of our new computerized medical records system. We also circulated a list of names of missing charts to our physicians, nurses, and staff to identify misspelled or changed names. Active, inactive, and transferred charts in our medical records were checked six times over an 8-month period to find the missing charts.

CONCLUSIONS

No significant findings were recorded as the result of digital rectal examination in women younger than age 40. In addition to the lack of diagnostic yield, the time, discomfort, and embarrassment associated with the DRE should discourage its use as part of the routine pelvic examination.

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