Receptive Anal Intercourse as a Potential Risk Factor for Rectal Cancer

In reporting an increase in rectal cancer incidence among young (aged <40 years) Americans during the last quarter century, Meyer and colleagues[1] call for further investigation of risk factors, especially of interactions among environmental factors and changing population genetics resulting from the shifting demographics in the United States. In our view, candidate environmental factors should include anal sexual behaviors, especially receptive anal intercourse, that can deposit potentially immunosuppressive (eg, semen) or carcinogenic (eg, sexually transmissible pathogens) foreign antigens.

Receptive anal intercourse is associated with anal cancer.[2] Human papilloma virus (HPV), presumably transmitted through anal intercourse, is also considered the main cause of anal cancer.[2] The prevalence of anal intercourse in heterosexuals in the United States has increased during the last 20 years,[2] and the incidence of anal cancer has similarly increased for women and men in all age groups in the United States during the same period.[3] HPV infection may cause both squamous cell carcinoma (the predominant form of anal cancers) and adenocarcinoma (the predominant form of rectal cancer). HPV-associated adenocarcinomas have accounted for 20% of cervical cancer in North American women during recent years.[4] Importantly, HPV infection is also associated with rectal adenocarcinoma.[5] Therefore, the recent increases in the prevalence of anal sex may well underlie, in part, the concurrent increases in rectal cancer in young Americans.

Assessing history and frequency of receptive anal intercourse should be a priority both at rectal cancer diagnosis and in epidemiologic research on rectal cancer. We realize that asking potentially embarrassing questions may be difficult for clinicians and cancer researchers. In our experience, asking such questions in a nonapologetic, nonjudgmental tone considerably attenuates patient-provider discomfort. When such investigations reveal an association between receptive anal intercourse and rectal cancer, then screening and prevention messages should be augmented by an additional focus on receptive anal intercourse.

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Reply to Receptive Anal Intercourse as a Potential Risk Factor for Rectal Cancer

Mr. Potterat and colleagues offer an explanation for the increase in incidence of rectal carcinoma that we found among patients catalogued in the Surveillance, Epidemiology, and End Results (SEER) database, positing that the increase may be related to an increase in receptive anal intercourse.[1] Unfortunately, there are no data contained within the SEER database to either confirm or refute this hypothesis. Therefore, the supporting data they offer deserve consideration.

The authors discussed an increase in the practice of anal intercourse in the United States. However, the reference they offer for this, published in 2010, reports increased anal intercourse among both men and women during the last 10 years.[2] The increased incidence we found dates to 1984, and the changes in etiologic factors would need to predate the increase we found to be considered a plausible explanation.

Furthermore, the authors write that human papillomavirus (HPV) infection may be an etiologic factor for both squamous cell carcinoma and adenocarcinoma and

that HPV-associated adenocarcinomas represent a substantial portion of cervical cancers. That adenocarcinoma is caused by HPV is supported by very little evidence. The authors supply a reference that finds an association among women in China between HPV infection of the cervix and adenocarcinomas of the rectum or rectosigmoid.[3] Although this is interesting, it is tangentially relevant to their argument that anal intercourse, and therefore HPV, is related to rectal adenocarcinoma.

In addition, the assertion that adenocarcinoma of the cervix is caused by HPV is not supported by the reference provided by the authors. Although there may be HPV infection found in these women, this may be coincident and not etiologic. Even if this were confirmed, it would not necessarily implicate HPV in the pathogenesis of rectal adenocarcinoma.

As clinicians, we are committed to doing whatever is necessary to improve the health of our patients. Taking a detailed sexual history is routinely performed in situations where this history adds to clinically relevant information on the diagnosis and treatment of our patients. Although further investigation may confirm this as an important part of visits addressing rectal adenocarcinoma, the data do not currently support this.

CONFLICT OF INTEREST DISCLOSURES

The authors made no disclosures.

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