Is There An Association Between Small Bowel Adenocarcinoma And Colonic Adenomatous Polyps?

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A. Statement of study and purpose rationale

Small bowel cancers are often the least considered in the differential diagnosis of gastrointestinal tract cancers. This is not surprising given the relative rarity of these cancers as compared to colon and gastric cancers. While the small bowel comprises about 90% of the surface mucosa of the gastrointestinal tract, cancers in this region are about 1/50th as common as that of the colon (1).

The relative inattention which small bowel cancers receive during the formulation of differential diagnosis, due to the relative rarity, is further compounded by their nonspecific symptomatologies in the early stages of the disease. Delays of months to years (average 6 to 8 months) from initial symptoms to final diagnosis are therefore not uncommon (2,3). This delay translates, predictably, into these cancers being diagnosed at later stages, resulting in avoidable grim prognosis for the approximately 3,600 Americans who are diagnosed with the disease every year.

When finally suspected, small bowel cancers, unlike gastric and colonic cancers, are largely inaccessible for endoscopic biopsy. This difficulty in assessment has led to definitive pre-operative diagnosis in 35% to 70% of reported series (4-6). A high index of suspicion, therefore, is required given the non-specific nature of symptoms. This study attempts to find a useful condition associated with small bowel cancers to increase the specificity of the index of suspicion for their diagnosis. A condition that we hypothesize may be associated with one subtype of small bowel cancers is adenoma of the large bowel.

Small bowel cancers are divided into four histologic subtypes: adenocarcinoma, carcinoid tumors, leiomyosarcoma, and lymphoma. The incidence of small intestine cancers tend to be higher in Western industrialized countries than in the Far East or Third World (7). The distribution of the various subtypes also differ between different geographical regions. In the Western industrialized countries, including the United states, adenocarcinoma of the small intestine is the most prevalent histologic subtype, comprising 40 to 50% of these cancers (1). It is this subtype which this study attempts to find a correlation between colonic adenomas.

A number of associations have been found between adenocarcinoma of the small intestine and other cancers or conditions. These cancers are thought to share similar risk factors with colonic adenocarcinoma, and various studies have shown an association between the two cancers (8). Also, as with colonic adenocarcinoma, small bowel adenocarcinoma appears to develop from adenomatous polyps (9). Finally, patients who have familial adenomatous polyposis have been found to have higher incidence of small bowel adenocarcinoma. It would be interesting and increase the specificity of index of suspicion for diagnosing small bowel adenocarcinoma, therefore, if an association is found between them and colonic adenomatous polyps in patients without the familial adenomatous polyposis syndrome. This gap remains to be filled, a task which this project will undertake.

B. Description of study design, procedures and statistical analysis

This will be a retrospective, case-control study of the association between small intestine adenocarcinoma and large bowel adenoma. The inclusion criteria is patients who underwent an invasive procedure (such as surgical exploration) for suspicion of small bowel cancers at Columbia-Presbyterian Medical Center between January 1987 and December 1996. The medical records of these patients will be reviewed. These patients are very likely to have had a colonoscopy done, since due to the relative rarity of small bowel cancers and non-specific symptomatologies, most patients who are eventually diagnosed

with the disease would have had their large bowel looked at during work-up. Many others who did not have a colonoscopy prior to the diagnosis tend to get one afterwards to rule-out the polyposis syndrome.

The reports of these patients' colonoscopy (done within one year before to one year after the invasive procedure to diagnose small bowel cancer) will be studied to find which patients had concomitant colonic adenoma.

The control group would be those patients who were found not to have small bowel cancers following the invasive procedure. The presence or absence of and location of adenoma in those patients diagnosed with small bowel adenocarcinoma will be compared with this control group. Our hypothesis is that colonic adenoma will be increased in those patients with small bowel adenocarcinoma, compared to the control, given the likely shared risk factors between small bowel adenocarcinoma and adenocarcinoma of the large bowel, coupled with the fact that they both appear to arise from adenomatous polyps as previously indicated.

It is expected that the number of patients diagnosed with small bowel cancers during the 1-year period of this study will be about 60 to 80, with at least that many controls as well. The exclusion criteria will be patients with familial adenomatous polyposis, since these patients have previously been found to have an increased risk of small bowel adenocarcinoma. The statistical analysis that will be mostly applied is the Odds Ratio.

C. Study Drugs

Not applicable.

D. Medical Devices

Not applicable.

E. Study Questionnaires

Not applicable.

F. Confidentiality of Study Data

All data collected will be coded in a manner unrelated to any identifying information. All data will be stored in a secure location accessible only to the researchers.

G. Location of study

Not applicable, since the patients do no need to be seen or followed.

H. Risks and benefits

None, since no new procedure will be performed.

I. Alternative therapies

Not applicable; patients would have already had all need procedures done.

J. Compensation and costs to subjects

Not applicable. There will be no added financial cost or time-investment to the patients resulting from this study, although they may have previously incurred costs related to the work-up, diagnosis and/or treatment of their cancers.

K. Minors and research subjects

Not applicable

L. Radiation and radioactive substances

Radiation and radioactive substances will not be used during this study

M. References

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