Diagnostic delay, symptoms and stage of colorectal cancer

Populationbased observational studies in Denmark

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ABSTRACT

The aim of this PhD dissertation was to examine the association between diagnostic delay and stage for colorectal cancer, to determine the extent to which this diagnostic delay for colon cancer patients and/or for rectal cancer patients was caused by patients, general practitioners, or hospitals. We examined the adherence to the Danish Health Authorities guidelines recommending that patients with suspected colorectal cancer be further examined within 14 days, and those with the confirmed diagnosis, be treated within 14 days of diagnosis. Further, we examined the association between symptoms and diagnostic delay and between symptoms and stage. Finally, we sent questionnaires to 20% of the patients' general practitioner to estimate, if the patients and the general practitioners gave the same information about diagnostic delay.

The thesis was based on a populationbased observational study from three counties in Denmark, representative of the Danish population. Data of diagnostic delay and symptoms were based on interviews with the patients. A total of 951 patients had primary colorectal cancer, histologically verified as adenocarcinoma, 743 (78.1%) were interviewed, 61 (6.4%) gave no concent, and 147 (15.5%) were excluced because of death, dementia/unable to cooperate, HNPCC, FAP, AFAP, chronic inflammatory bowel disease, or inability to understand Danish.

We calculated the relative risk of having an advanced stage (Dukes' C or D) for median delay (61-150 days), and long delay (>150 days) with short delay (≤60 days) as our reference group, and found an about doubled relative risk of having an advanced rectal cancer if diagnostic delay was more than 60 days. This association could not be shown for colon cancer.

For both colon cancer and rectal cancer the total median diagnostic delay was long (116 vs. 135 days). Diagnostic delay was primarily caused by the patients for colon cancer as well as rectal cancer (patients' delay: 18 vs. 44 days). The adherence to the guidelines was poorly met. For colon cancer patients especially the delay of diagnosis exceeded 14 days, and for rectal cancer patients especially the delay of treatment exceeded 14 days.

Vague debut symptoms were more frequent for colon cancer patients than for rectal cancer patients, and vague debut symptoms were associated with advanced cancer, whereas more well-defined symptoms – primary rectal bleeding – were the most frequent debut symptoms of rectal cancer. Rectal bleeding as the debut symptom was associated with a non-advanced stage (Dukes' A or B).

The correlation between the patients' and the general practitioners' information of diagnostic delay was not perfect (Spearman's Rho 0.27-0.60) – best correlation was found for patients with a short delay.

To improve the prognosis of rectal cancer it is important to decrease diagnostic delay.