Colorectal cancer in the young

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Colorectal cancer (CRC) is the most common malignancy of the GI tract and generally thought of as a disease of older persons, with more than 90% of patients being diagnosed after age 55 years.

However a significant proportion of patients < 40 years present with this disease.

We performed a structured review aiming to:

1. Characterize CRC in the young population and
2. Determine how CRC in this population should be further addressed regarding detection and treatment.
Data sources

• A Medline literature search was completed. Articles were chosen to include those studies that examined pts < 40 y/o.
• A total of 55 articles were chosen from the search.
• Data were collected and organized into 3 categories:
  (1) patient demographics (age, gender, race)
  (2) clinical items (family history, predisposing factors, time from onset of symptoms to presentation or diagnosis, presenting symptoms)
  (3) tumor-related factors (tumor location, stage at presentation, histology, treatment, 5-year survival).
Results

Patient demographics

Age:
• the average percentage for all the articles was 7%. (0.4% ~ 35.6%)

Gender:
• no significant difference in gender distribution
  (men (51.4%) /women (48.6%))

Race:
• higher proportion of young black male patients
Results

Clinical items

Family history and predisposing factors:

- An average of 22.7% of young CRC pts did have a family history (3.2% ~61%).
- “Predisposing factors” were in general considered to be a personal history of IBD (U.C, C.D, or regional enteritis), FAP, or HNPCC.
- An average of 16% of pts had predisposing factors (0% ~ 50%).
Results

Clinical items

Delay in diagnosis:

• The average delay in presentation, when thought to be related to patient factors, was 6.2 months (days ~ 9 yrs)

• One study found that 15% of patients had a physician-related delay in diagnosis compared with as high as 50% of patients in another study.

• Two studies commented on the length of the delay in diagnosis: 1 found that 26% of young pts had a 3-month delay in diagnosis, and the other measured a delay of 6 months in 45% of their pts.
Results

Clinical items

Symptoms:

• The most common symptoms were:
  Abdominal pain (55%).
  Rectal bleeding (46%).
  Weight loss (35%).
  Change in bowel habits (32%).
Results

Tumor-related factors

Location:

- The rectum and sigmoid colon were the most frequent sites, and the averages were as follows:
  - Ascending (cecum, A-colon, hepatic flexure) -- 22%
  - Transverse colon -- 11%
  - Descending (splenic flexure, D-colon) -- 13%
  - Rectum and sigmoid region -- 54%
Results

Tumor-related factors

Stage:

- Overall average stage at presentation was:
  - Dukes’ A -- 12% (0% ~ 33%)
  - Dukes’ B -- 22% (3% ~ 59.3%)
  - Dukes’ C -- 41% (22% ~ 76%)
  - Dukes’ D -- 25% (3% ~ 60%)
Results

Tumor-related factors

Pathology:

• Averages were as follows:
  Mucinous -- 21% (3% ~ 69%);
  Signet ring -- 3% (1.7% ~ 11.1%);
  Poorly differentiated -- 27% (8% ~ 54%).
Results

_Treatment:_

- On average, 63% of patients underwent resection for cure, and 31.5% had palliative surgery.
Results

Survival:

• Average overall 5-year survival: 33.4% (0% ~ 60%)
  Mucinous tumors -- 24.7% (11.3 ~ 41.6%)
  Poorly differentiated tumors -- 25.5% (11.8% ~ 35%)

• Average 5-year survival rates adjusted for tumor stage at presentation:
  Duke’s A -- 94%
  Duke’s B -- 76.5%
  Duke’s C -- 39%
  Duke’s D -- 6.8%
Discussion

• Young pts present with later stages at diagnosis compared with their older counterparts.
• Our review found an average of 66% of pts <40 y/o presented with Dukes’ C or D lesions, significantly higher than those for pts >40 y/o.
• Nearly all of the articles noted a higher prevalence of mucinous or poorly differentiated tumors including signet ring tumors in the young.
• This is one of the main distinctions between the disease in older versus young pts.
Discussion

• Marble mentions that 85% of young pts with poorly differentiated tumor presented at stage C or D versus 15% in the older population ($P = 0.001$).
• The significance of these histologies in the young is the decreased 5-year survival rates: 24.7% for mucinous and 25.5% for poorly differentiated.
• Overall, it appears that colorectal cancer in the young population is more aggressive disease, presents with later stage, and has poorer pathologic findings.
Discussion

• This review found the average overall 5-year survival for young pts to be 33.4%. ( 33% to 75% in the older ).
• Young pts with Dukes’ stage A or B tumors appear to have better survival than older pts with similar-stage disease. Perhaps secondary to improved tolerance of surgery and adjuvant therapy by the young pts.
• On the other hand, young pts diagnosed with Dukes’ C or D lesions do the same or worse than older pts with same stage disease.
• This tumor in pts < 40 years old appears to have unique characteristics when compared with the older population. Young pts present with later-stage disease and poorer pathology.
• If the disease is detected early, young pts have improved survival compared with older pts. However, if they present with later-stage disease, they appear to have a poorer prognosis.