Excess risk of rectal squamous cell carcinoma in HIV-infected persons

Anna E. Coghill,[1] Meredith S. Shiels,[1] Randi Rycroft,[2] and Eric A. Engels[1]
[1]Division of Cancer Epidemiology and Genetics, National Cancer Institute, [2]Colorado Central Cancer Registry

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BACKGROUND

- Squamous cell carcinoma (SCC) of the rectum is rare, comprising only 1-2% of diagnosed rectal tumors.
  - Because of the rarity of this disease, risk factors have not been established.
- Our preliminary data noted >30% of rectal tumors in HIV-infected persons were SCCs.
  - Relative to 1-2% in the general population, this suggests HIV may be a risk factor for rectal SCC.
- HPV has also been proposed as a risk factor for rectal SCC because of the:
  - Proximity of the rectum to the anus, and
  - The known role of HPV in anal SCC.

STUDY OBJECTIVES:

- Quantify the excess risk of rectal SCC in HIV infected persons compared to the general population.
- Explore the possibility that rectal SCC may represent misclassified anal SCC.

METHODS

STUDY POPULATION and DEFINITIONS:

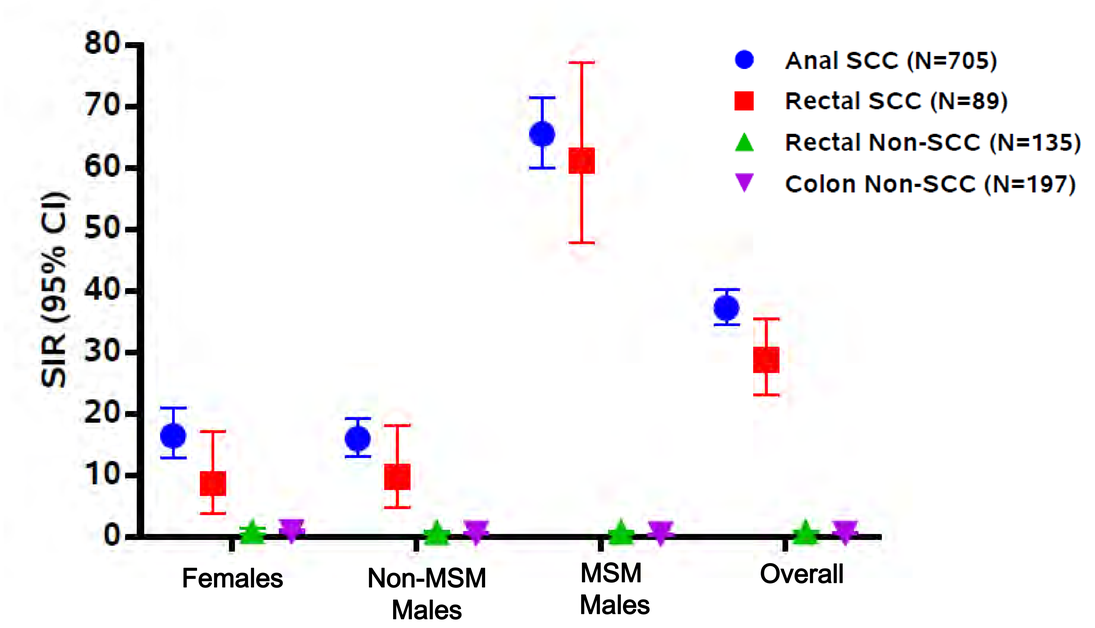
- Data collected from 7 states participating in the HIV/AIDS Cancer Match Study (1991-2010).
- We ascertained the following diagnoses using cancer registry data:
  - Rectal cancer (ICD-03 code C200)
  - Anal cancer (ICD-03 codes 210-12, 218)
  - Colon cancer (ICD-03 codes 180-89, 260)
- SCC was defined using the following cancer registry histology codes: 8052, 8070-78, 8083-8484

STATISTICAL ANALYSES:

- Standardized incidence ratios (SIRs) compared:
  - Observed cancers in HIV-infected people, to the
  - Expected number of cancers based on general population rates

RESULTS

EXCESS RISK OF RECTAL SCC IN HIV-INFECTED PERSONS



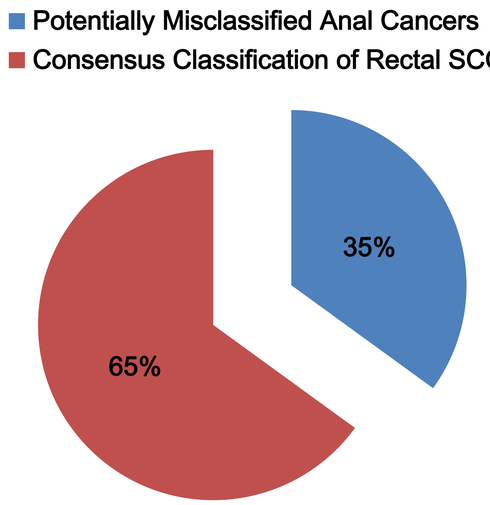
- The overall incidence of rectal SCC in HIV-infected persons substantially exceeded the expected rate in the general population: (**SIR = 28.9, 95% CI 23.2-35.6**).
- This excess risk was most marked in HIV-infected men who have sex with men (MSM) (**SIR = 61.2; 95% CI 47.8-77.2**).

REVIEW OF PATIENT CASE NOTES

REVIEW OF CANCER REGISTRY CASE NOTES:

- De-identified case notes for anal and rectal cancer patients (HIV-infected and uninfected) were provided by 4 participating registries.
- Four researches independently , blinded to HIV status, reviewed case notes and assigned a location (anus, rectum), histology (SCC, non-SCC), and confidence level (1-5).
- We calculated the proportion p_1 of rectal SCC cases that were determined by group consensus to represent potentially misclassified anal cancers.
- We then recalculated the SIR using only the proportion of rectal SCC cases estimated to represent true rectal SCC in our study population (1- p_1).

MISCLASSIFICATION



- Greater than one half of the 65% of tumors classified as rectal SCC were assigned a high confidence rating (4-5) by ≥1 reviewer.
- After accounting for potential misclassification, the SIR for rectal SCC remained elevated **(SIR=18.8; 95% CI 14.3-24.3).**

CONCLUSIONS

- **HIV-infected people have a markedly elevated risk for rectal SCC.**
- Misclassification of anal cancer as rectal SCC was present but did not entirely explain the excess.
- **The pattern of elevated risk for rectal SCC was very similar to anal SCC** (i.e., particularly high in MSM), suggesting a sexually transmitted, infectious etiology such as HPV.

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