Retrospective study of the value of CEA in Colorectal Cancer among symptomatic patients in a Primary Care Clinic in Hong Kong

Yip Chun Kong, Chan Yin Hang, Yiu Chung Ting, Liang Jun
Department of Family Medicine, Tuen Mun Hospital, New Territories West Cluster

Keywords:
Retrospective study
CEA
colorectal cancer
primary care
hong kong

Introduction
Colorectal cancer is one of the top killer in Hong Kong, detecting a cancer early is not an easy clinical question. Carcinoembryonic antigen (CEA) is known to be a tumor marker for colorectal cancer but is neither specific or sensitive. Current evidence suggest not to use CEA as a screening or diagnostic tools for colorectal cancer. However, it is not uncommon to encounter patient with CEA ordered to detect colorectal cancer. Can CEA provide useful information for making clinical decision?

Objectives
To provide local data concerning the predictive value of CEA in Hong Kong population and discuss its value in detecting colorectal cancer in symptomatic patients.

Methodology
All patients with CEA checked in Tin Shui Wai Community Health Centre from 09/2012 to 08/2013 are searched via CDARS. Cases are reviewed by CMS for their symptom, CEA level and result from endoscope. Cases without endoscope done were excluded.

Result
81 cases were found in the study period. All are presented with symptoms such as rectal bleeding, abdominal pain, tenesmus, change in bowel habit or weight loss. 39 cases were included. (36 colonoscopy and 3 sigmoidoscopy) Average age included in the study is 59.6. (range 43-83) Male to Female ratio is 1:1.05. 7 cases with CEA elevated. (CEA 4.1, 5.3, 6.1, 6.6, 12, 12.8, 6808). 2 colorectal cancer (CEA 6.6 and 6808) and 2 colon polyp (CEA 6.1 and 12.8) were detected. All the cases without
increase in CEA did not found to have colorectal cancer but 4 cases were diagnosed with colon polyp. (CEA 0.6, 1.3, 2.1, 3.5) The positive predictive value of CEA is only 22% but negative predictive value is high up to 100% in this study. But relying on CEA for exclusion will miss 4 polyp out of 32 cases. Extremely high level of CEA may indicate a need for early attention, but the sensitivity is very low if we set such a high cut off limit. This review reinforce CEA is not a reliable maker for detecting colorectal cancer. However, as the sample size of this study is very small, a larger scale study will provide more convincing data to support this result in our locality.