
Brief Report

The Prevalence of Polyp in Colon of Patients with Acromegaly

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Several studies have shown that patients with acromegaly are at increased risk of developing colorectal polyps and cancer. The prevalence of polyp in colon of patients with acromegaly was variously reported between 23% and 53%. This study was conducted to determine the prevalence of polyp and cancer of colon in patients with acromegaly. Twenty-three patients with acromegaly were evaluated with colonoscopy for the presence of colonic polyps and cancer. Three patients were found to have colonic polyps. This translates to a prevalence rate of 13%. We recommend that screening colonoscopy be carried out once every three years in all acromegalic patients over the age of 40 years.

Archives of Iranian Medicine, Volume 10, Number 2, 2007: 236 – 238.

Keywords: Acromegaly • cancer • colon • IGF1 • polyps

Introduction

Acromegaly is a disease characterized by excess growth of distal bones, soft tissues, and viscera. The disease is caused by hypersecretion of growth hormone, which stimulates the release of insulin-like growth factor 1 (IGF1). Both of these substances promote cellular growth.¹ Several reports have been published on the association between acromegaly and colonic polyps and cancer.² Since visceral hypertrophy is a characteristic feature of acromegaly, the symptoms of colorectal cancer may remain uncovered until the disease is at an advanced stage. Screening allows early detection and removal of (pre-malignant) colonic polyps. Given the low sensitivity of barium contrast enema, it seems that a “full colonoscopy” is indicated in this group of patients.^{3,4}

The prevalence of polyp in colon of patients with acromegaly has been variously reported

between 23% and 53%.⁵ To the best of our knowledge, no similar studies has been carried out in Iran. This study was conducted to determine the prevalence of colonic polyps and cancer in patients with acromegaly.

Patients and Methods

In this study, every patient with acromegaly who had referred to the Endocrinology or Neurosurgery Departments (inpatient and outpatient) of Shariati Hospital in Tehran, during the previous 30 years were assessed. The diagnosis of acromegaly was made by a glucose tolerance test (100 g glucose) and growth hormone ≥ 5 ng/mL. Patients were initially traced and contacted either by phone or through a domiciliary visit. Informed consent was obtained from all participants before enrolling into the study. Proposal of the study was approved by the Research Ethics Committee of Endocrinology and Metabolism Research Center (EMRC). Patients attended the Endocrinology Clinic at Shariati Hospital, where they completed a questionnaire and underwent a complete clinical examination with special attention to skin tags. None of the cases had history or symptoms of gastrointestinal disease. All participants underwent colonoscopy.

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Accepted for publication: 14 June 2006

Table 1. Biopsy results in three patients with acromegaly and colonic polyps.

Age (yr)	Sex	Duration of acromegaly (yr)	Biopsy result
41	F	4	Mixed hyperplastic-adenomatous polyp (tubulovillous adenoma) with low-grade dysplasia
41	F	20	Adenomatous polyp, tubular type with low-grade dysplasia
61	M	10	Mixed hyperplastic-adenomatous polyp, tubular type with low-grade dysplasia

All endoscopical lesions were biopsied and examined histologically. Colonoscopies were performed by one endoscopist using a flexible Olympus Corp., UK CF-Q160AL videoendoscope (160 cm in length). Patients were then referred to the EMRC Laboratory for measurement of IGF1 levels.

Values of quantitative variables are presented as mean \pm SD and of qualitative variables, as relative and absolute frequency. IGF1 measurement was done by radioimmunoassay (RIA) method (Biosource Europe A kit). SPSS version 10 and χ^2 test were used for data analysis.

Results

Twenty-three (9 males and 14 females) patients with acromegaly were entered into this study. The mean \pm SD age of participants was 44.1 ± 15 years. Five (22%) patients were found to have colonic polyps but only three (13%) were proved to have the disease in pathological studies (Table 1). None of the patients had colonic cancer.

The mean \pm SD duration of illness was 7 ± 5.3 (range: 1 – 20) years. Six (26%) patients had skin tags. The mean \pm SD IGF1 level was 1042.9 ± 577.2 ng/mL in our patients. Since the normal range for IGF1 in adults is ≤ 540 ng/mL, 20 (87%) patients were classified as having elevated IGF1, which signifies the activity of the disease.

Discussion

The prevalence of acromegaly is reported to be one in three million. In the past, between 26% to 50% of patients would die before the age of 50 years. Improved management has reduced mortality rates to 16% at the age of 50 and 29% at the age of 60 years.⁵ The leading causes of death in these patients are cardiovascular disease, notably cardiomyopathy, cerebrovascular accidents, and malignancy. The risk of cancer in an acromegalic patient is three times more than that of a normal person. In a study on 1000 acromegalic patients, the risk of tumor occurrence was 60% higher in

cases than in controls. Another study found an increased risk of malignancy in male patients. In comparison of 78 patients with acromegaly and 200 patients with other types of pituitary neoplasia, the risk of malignancy in the first group was found to be two and a half times higher.⁶

Recent studies have confirmed the higher prevalence of colonic polyps in acromegalic patients. In one study, 23.2% of acromegalic patients had adenomatous polyps of the colon, compared to 8% of controls.⁷

In a study by Brunner et al,⁸ four (14%) out of 29 patients had polyps, with a higher prevalence in men than women. In a smaller study, Klein et al³ reported a prevalence of 29% for colonic polyps in 17 acromegalic patients. The difference in the observed prevalence rates may be due to the ethnic factors. In our study, 13% (n = 3) had colonic polyps, a frequency closer to the findings of Brunner et al.

We did not find any association between IGF1 levels and the presence of colonic polyps which is in contrast with the studies of Jenkins et al.⁹ This correlation may be established with a larger sample size. Both Matano et al² and Vasen et al⁶ have published similar results. The latter also reported a prevalence of colonic polyps of 22%, which was identical to our finding.^{6,7,10}

In conclusion, to adjust the standard guidelines for screening of acromegalic patients in Iran, studies with larger sample size representative of the whole population should be carried out.

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