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Squamous Cell Carcinoma in Barrett's Esophagus

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Abstract

Barrett's esophagus (BE), consequence of chronic gastroesophageal reflux disease (GERD), is a pre-malignant condition, capable of turning into adenocarcinoma (ACa). However the presence of squamous cell carcinoma (SCa) coexisting with Barrett's metaplasia, is reported in some papers. The aim of this paper is to present 17 patients involving synchronous BE and SCa.

Keywords: Barrett'sesophagus; Adenocarcinoma; Squamous carcinoma

Introduction

Barrett's esophagus (BE), according with the Montreal Consensuscriteria [1], is defined as columnar metaplasia lining the distal esophagus, with specialized intestinal metaplasia with goblet cells (IM+), or gastric metaplasia with cardial type or fundic-oxyntic type mucosa (GM+).

It is a pre-malignant condition with an increased risk of adenocarcinoma (ACa). Only IM develop ACa. No cancer was found in other types of columnar mucosa [2-4]. All the same, non-goblet columnar metaplasia of the esophagus could progress to cancer, but the magnitude of risk is unknown [2].

However, we found some papers in which squamous or adenosquamous carcinoma develops jointly with Barrett's mucosa instead of ACa [5-23].

Materials and Methods

All patients were diagnosed by means of upper endoscopy, and multiple biopsies were performed in the Barrett's mucosa and all visible lesions. The appearance and measurement of the metaplasia are classified according to C&M Prague Criteria [2,24].

Patients examined previously to the existence of these criteria, were reviewed and reclassified according to the present nomenclature.

At least 2 experienced gastrointestinal pathologists should evaluate all biopsies in order to avoid interobserver variation [2,25].

Patients

From January 1982 upto January 2013, 1424 BE were diagnosed. Which 501 had IM+, and 923 GM+. ACa developed in 67 patients and squamous cell carcinoma (SCa) in 17. Two patients had simultaneously both types of cáncer.

Results

In Table 1, we expose date of diagnosis, patients identification with the record number, sex, age, Prague C&M criteria, location and gross appearance.

The great majority (13 patients) were male. The average age was 58.23 years old (Min 32, Max 81). Among women (4 patients), the average age was 73.25 years old (Min 67, Max 83).

According to Prague C&M criteria, only 3 were tongue-shaped (M) and 14 circumferential (C). With reference to the length, 7 were short (less than 3 cm) and 10 were long (3 cm or more).

Nine of the SCa were located in the middle esophagus with a free space of malignant tissue reaching columnar metaplasia. In 2 of them ACa in Barrett's mucosa was synchronous with SCa, in the remaining cases, neither tumor nor displasia were found. While the other 8 SCa, had evolved into distal esophagus nearby columnar metaplasia.

The gross appearance during endoscopy was of three types: mass, ulcerative or infiltrative. Varying strictures were present in all cases.

Discussion

It is known that the natural history evolves from GERD through Barrett's esophagus to ACa. But occasionally papers report that other types of cáncer, mostly squamous or adenosquamous carcinoma, can appear related to BE [5,23].

This reminds us that Barrett's esophagus is a mosaic of metaplasia, dysplasia and neoplasia, showing variable degrees of architectural and cell changes in the intestinal and gastric epithelium lining the esophagus [26]. So why would not it be posible for Barret´s esophagus to turn into SCa instead of ACa? We should not forget, that BE is a consequence of long-term gastro-esophageal reflux disease [27].

Various kinds of refluxed material cause different types of lesions, including ulcers, strictures, metaplasia, dysplasia, and cáncer [5,21,28].

ACa in Barrett's is developed on IM. Failure in detection of ACa in biopsies cannot be interpreted as absence of it, as a result of the patchy appearance it may adopt [26,29].

In our series of 923 GM+, no cáncer was found in gastric-fundic or cardial columnar mucosa. Both type of cancer (ACa and SCa) were developed in esophagus with IM.

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Date	Patient	Sex	Age	Prague C&M	Esophageal location	Gross appearance
7/8/08	470 AT	F	67	M1	middle	mass
30/10/96	159 AJ	M	52	C1	middle	ulcerative
15/5/96	125 BJ	F	72	C3	distal	ulcerative
23/4/97	168 GA	M	54	C1	middle	mass
22/5/87	38 GPI	M	64	M3	middle	mass
28/3/96	121 LF	M	58	C3	distal	mass
31/10/96	161 MJF	M	72	C1	middle	ulcerative
30/10/98	195 MV	M	76	C3	middle+distal (SCa+ACa)	mass
26/7/00	219 OF	M	63	C2	distal	mass
12/9/96	145 OT	M	58	C2	middle	infiltrative
9/8/94	86 PH	M	63	M3	distal	infiltrative
8/2/94	81 LC	M	32	C9	middle	ulcerative
10/10/96	149 QD	F	83	C1	middle+distal (SCa+ACa)	mass
7/10/02	464 RJ	M	59	C6	distal	mass
13/9/02	463 RE	M	55	C3	distal	infiltrative
7/2/96	116 RME	F	71	C6	distal	infiltrative
11/10/02	465 TB	M	81	C4	distal	infiltrative

Table 1: Squamous cell carcinoma in Barrett's esophagus.

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