Evaluation and Ultrasound Follow-up of Gallbladder Polyps

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Abstract

Gallbladder polyps are growing masses inside the wall of the gallbladder. In the majority of patients, the diagnosis represents an incidental finding of a routine abdominal ultrasonography, or following cholecystectomy for gallstones. The overwhelming majority of these lesions are non-neoplastic therefore called as pseudo-tumor. The widespread use of ultrasonography has made the diagnosis of polypoid lesions of the gallbladder increasingly frequent.

Introduction

Positive diagnosis of polyps is based on two fundamental semiotic elements:
1. Lack of posterior acoustic shadow;
2. Inability to move when changing the patient’s position.

Gallbladder polyps have been observed in 0.4 percent of resected gallbladders, and in 1.4 to 4.5 percent of gallbladders assessed by ultrasonography [1]. Over 90 percent of these lesions are non-neoplastic and represent cholesterol-composed polyps [2]. Gallbladder polyps are most frequently identified in patients between 40 and 50 years of age, and are more common in women. No association was observed between the presence of polyps and the patient's age, sex, weight, number of pregnancies, use of exogenous female hormones, or any other risk [3, 4]. Gallbladder polyps have only rarely been described in children.

Methods

In our study were included 3680 ultrasonography examinations of ambulatory patients examined at the hospital Nr.2 Q.S.U.T “Mother Theresa”. Examinations have resulted from a total of 24 cases with gallbladder polyps (0.621%) with 10 males and 14 females, with a ratio M / F - 1/1.4. In five cases of gallbladder polyps have been associated with biliary sludge and in three cases have been associated with calculus gallbladder.

In the vast majority of cases are asymptomatic. In some cases they manifest with mild pain in the right upper quadrant, nausea, vomiting, or dyspeptic syndrome and intolerance to fatty foods, also depending on:
- Polyp localization;
- Polyp size;
- Association or not with calculus or biliary sludge.

The classification of gallbladder polyps was first proposed in 1970 based upon a review of 180 benign tumors (polypoid lesions can be categorized as benign). Benign lesions have been further subdivided into neoplastic or non-neoplastic:

The most common benign non-neoplastic lesions (pseudo-tumors) are cholesterol polyps (which is referred to as "cholesterolosis"), followed by adenomyomas (which is referred to as "adenomyomatosis"), and inflammatory polyps. Cholesterolosis and adenomyomatosis are mucosal abnormalities of the gallbladder [5, 6]. They have been referred to as "hyperplastic cholecystoses", a term introduced in 1960 to differentiate them from cholecystitis.

The most common malignant lesion in the gallbladder is adenocarcinoma [7, 8]. Gallbladder adenocarcinomas are much more common than gallbladder adenomas, in contrast to the colon where adenomas are much more common than adenocarcinomas. Squamous cell carcinomas, mucinous cyst adenomas, and adeno-acanthomas of the gallbladder are rare.

Histo-pathologically gallbladder polyps are subdivided into:

Benign polyps, 90 – 95 % of cases:

a) Cholesterol polyps;
b) Inflammatory polyps and adenomyomatosis;
c) Adenoma.

Malignant polyps, 5% of cases:

a) Adenocarcinoma;
b) Angiosarcoma;
c) Squamous cell carcinomas.

Gallbladder polyps' classification II

This type of classification recently decided, based on their findings in ultrasonography and differentiation based on their size.

The size of gallbladder polyps can be an indication to differentiate whether they are carcinogenic (malignant) or non-carcinogenic (benign). They are smaller than 10 mm in diameter. It is not common to be carcinogens but that usually does not need treatment.

For the polyps which are greater than 10 mm diameter usually degenerate into malignant pathology, and forms the basis of their treatment (when not given changes in the surrounding organs) is laparoscopy or total cholecystectomy.

Imaging of gallbladder polyps

Ultrasound

It remains the method of choice for the examination of gallbladder polyps as well as their dynamic follow-up [9]. In ultrasonography they appear as hyper-ecogenic lesions that are projected in the gallbladder lumen, without acoustic shadow, without position changes from the patients' position.

CT/ MRI

Such a procedure is often insensitive to small lesions. In large polyps we are going to have tissue density in the gallbladder lumen, with similar contrast to the gallbladder wall. When contractions are frequently registered, this might be a sign of malignancies growing.

Figure 1: Gallbladder polyp (asterisks)
Figure 2: Gallbladder polyp (asterisks)
Figure 3: Gallbladder polyp (arrow)
Figure 4: Gallbladder polyp, as a small mass flowing inside the cavity.

Discussion

It is recommended the following-up of the polyps depending on the size when they are smaller than 10 mm [10, 11]. Polyps with dimensions under 5 mm should have a ultrasonography each 6 months to 1 year. Polyps with dimensions 5-10 mm, when vaulted, have a stable growth and it is recommended an ultrasonography follow-up every 3-6 months.

Whereas polyps with dimensions 5-10 mm but with large bases, which generally are solitary lesions, exhibit growth in unstable delays, therefore cholecystectomy might be recommended. For polyps with dimensions over 10 mm cholecystectomy is unavoidable.

Conclusion(s)

1. Ultrasound remains the best method in diagnosing and monitoring the dynamic of gallbladder polyps [12].
2. When polyps are associated with biliary calculus or biliary sludge, in this case cholecystectomy is recommended [13, 14].
3. The final diagnosis it is established after cholecystectomy, because none of the imaging methods can confirm the final morphological nature of the lesion.

Reference(s)

Illustrations

Illustration 1

Figure 1: Gallbladder polyp (asterisks)

Illustration 2

Figure 2: Gallbladder polyp (asterisks)
Illustration 3

Figure 3: Gallbladder polyp (arrow)

Illustration 4

Figure 4: Gallbladder polyp, as a small mass flowing inside the cavity.
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