Role of endoscopic sphincterotomy alone in patients with choledocholithiasis and cholelithiasis

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Objective: To study the long-term effects of endoscopic sphincterotomy alone in elderly patients with choledocholithiasis and cholelithiasis.

Design: A chart review.

Setting: A university-affiliated hospital.

Patients: Twenty-one patients over 60 years of age, who presented with cholecystitis, jaundice or cholangitis. The follow-up ranged from 1 to 5 years (mean 3.51 years).

Intervention: Endoscopic sphincterotomy.

Main Outcome Measures: The occurrence of postsphincterotomy pancreatitis, cholangitis and cholecystitis.

Results: In the early postsphincterotomy period, 3 of the 21 patients had pancreatitis, which was treated conservatively. One patient had cholangitis. In this patient the initial sphincterotomy did not clear the common bile duct of all stones, but a repeat procedure was successful and the cholangitis resolved. One patient had mild cholecystitis that responded to conservative therapy. In the long term, 9 of the 21 patients had cholecystitis. This was treated conservatively in six patients, but three required cholecystectomy. One patient had choledocholithiasis requiring exploration of the common bile duct.

Conclusions: In elderly debilitated patients with cholelithiasis and choledocholithiasis, endoscopic sphincterotomy alone may be adequate therapy. However, patients presenting with cholangitis and cholelithiasis may eventually require cholecystectomy.

Objectif : Étudier les effets à long terme d'une sphinctérotomie par endoscopie seulement chez les patients âgés atteints de cholédocholithiase et de cholélithiase.

Conception : Étude de dossiers.

Contexte : Hôpital affilié à un université.

Patients : Vingt et un patients de plus de 60 ans atteints de cholécystite, d'ictère ou de cholangite. La durée du suivi a varié d'un à 5 ans (moyenne 3,51 ans).

Intervention : Sphinctérotomie par endoscopie.

Principales mesures des résultats : L'occurrence de pancréatite, de cholangite et de cholécystite après la sphinctérotomie.

Résultats : Au début de la période qui a suivi la sphinctérotomie, 3 des 21 patients ont été atteints d'une pancréatite qui a été traitée de façon conservatrice. Chez un patient atteint de cholangite, la sphinctérotomie initiale n'a pas dégagé tous les calculs du cholédoque, mais une nouvelle intervention a réussi et la cholangite s'est résorbée. Un patient a été atteint d'une cholécystite légère qui a réagi à un traitement conservateur. À long terme, 9 des 21 patients ont été atteints d'une cholécystite, qui a été traitée de façon conservatrice dans six cas, mais trois patients ont dû subir une cholécystectomie. Un patient a été atteint de cholédocholithiase qui a nécessité une exploration du cholédoque.

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CONCLUSIONS : Chez les patients âgés inaptes atteints de cholélithiase et de cholédocholithiase, une sphinctérotomie par endoscopie peut à elle seule constituer un traitement suffisant. Les patients atteints de cholangite et de cholélithiase peuvent toutefois avoir besoin éventuellement d'une cholécystectomie.

Endoscopic sphincterotomy is the preferred method of removing common-bile-duct stones in patients who have previously undergone cholecystectomy.[1–3] Very occasionally this procedure has been used on elderly debilitated patients who are unfit to undergo cholecystectomy. The long-term outcome in these elderly patients is unclear. Some authors[4,5] have stated that cholecystectomy is unnecessary in these patients. Others[6] have reported significant complications (recurrent cholecystitis, jaundice, pancreatitis and recurrent common-bile-duct stones) with the gallbladder left in place.

This retrospective study reviews experience at The Toronto Hospital, Western Division, with endoscopic sphincterotomy in elderly patients with calculous cholecystitis and choledocholithiasis, with emphasis on the incidence of cholecystitis, pancreatitis and choledocholithiasis after endoscopic sphincterotomy.

Patients and method

The charts were reviewed of 21 patients (15 women, 6 men) over 60 years of age with cholelithiasis and choledocholithiasis who had undergone endoscopic sphincterotomy. The patients presented with clinical features of cholecystitis, cholangitis or choledocholithiasis. None of them had undergone cholecystectomy. Initial investigations included liver function tests and ultrasonography of the upper abdomen. All patients had abdominal pain, 15 had a body temperature higher than 37.5 °C, 14 had elevated serum bilirubin levels and 12 had elevated serum alkaline phosphatase levels. All patients underwent ultrasonography and retrograde cholangiopancreatography (Table I). Ultrasonography demonstrated gallstones in all patients.

Every patient underwent endoscopic sphincterotomy; in 3 of the 21 patients a repeat procedure was necessary to clear the common bile duct of all stones.

The follow-up ranged from 1 to 5 years (mean 3.54 years). All patients underwent ultrasonography at 1 year, 16 patients at 2 years, 9 patients at 3 years and 7 patients at 4 years. The incidences of postsphincterotomy pancreatitis, cholangitis and cholecystitis and subsequent surgery were all recorded.

Results

After the procedure four patients suffered complications. Three patients had pancreatitis that was treated conservatively with success. One patient whose common bile duct was not cleared of stones initially suffered cholangitis. Antibiotics were administered intravenously and repeat endoscopic sphincterotomy with removal of all remaining stones was successful in controlling the cholangitis. One patient had mild cholecystitis, which responded quickly to conservative therapy.

Follow-up ultrasonography in 11 patients demonstrated no gallstones. During the follow-up cholecystitis developed in nine patients (Table II). In six of them conservative therapy was successful in treating the condition and further attacks did not occur. Three patients suffered acute cholecystitis, requiring cholecystectomy. One patient also had choledocholithiasis requiring common-bile-duct exploration.

Analysis of the relationship between the clinical picture at presentation and the need for cholecystectomy revealed that 50% (two of four) of patients presenting with cholangitis and 14% (one of seven) of patients presenting with cholecystitis and jaundice subsequently required cholecystectomy.

Discussion

For many years cholecystectomy was the standard surgical procedure for acute and chronic cholelithiasis. Recently, laparoscopic cholecystectomy has replaced open cholecystectomy as the surgical procedure of choice.[7,8] Morbidity and mortality are

Table I

Radiologic and Endoscopic Investigations in 21 Elderly Patients With Cholelithiasis and Choledocholithiasis

Investigation	Patients, no.
Ultrasonography	
Dilated common bile duct — no stones	14
Dilated common bile duct — stones	5
Normal-sized common bile duct — no stones	2
Endoscopic retrograde cholangiopancreatography	
Dilated common bile duct — stones	15
Normal-sized common bile duct — stones	6

low. There is, however, a group of patients in whom even laparoscopic cholecystectomy is risky. In 1978, Reiter and colleagues[9] reported on endoscopic papillotomy carried out in 20% of patients who had common-bile-duct stones with an intact gallbladder. A short follow-up demonstrated no further attacks of cholecystitis. Leow and Thompson[10] reported a series of 20 elderly patients who had cholecystitis, biliary colic, pancreatitis and jaundice. Endoscopic papillotomy without cholecystectomy was successful in 16 of the patients. Two patients subsequently underwent cholecystectomy. One patient died on the 9th postoperative day because of coexisting cardiovascular disease. At a mean follow-up of 18.5 months, 12 patients were found to be free of symptoms related to gallbladder disease.

Since 1980 there have been many reports of endoscopic sphincterotomy for the management of common-bile-duct stones in patients with an intact gallbladder. Cotton and Vallon[11] reported on 71 elderly patients with an intact gallbladder who presented with symptoms of common-bile-duct stones. Seventy patients underwent successful sphincterotomy. In nine of them removal of all stones was impossible; seven underwent successful cholecystectomy and one suffered repeated attacks of cholangitis and died. The maximum follow-up was 18 months, and 11 of the 71 patients eventually underwent elective cholecystectomy.

Rosseland and Solhaug[12] reported a series of 75 patients with common-bile-duct stones who underwent endoscopic papillotomy, with success in 95% (71 patients). Sixty-six patients were discharged from hospital with an intact gallbladder; of these 18 subsequently underwent cholecystectomy for cholecystitis and 48 either died of causes unrelated to gallbladder disease or had no further attacks of cholecystitis up to 7 year after the procedure.

Ingoldby and associates[13] followed up 188 patients with intact gallbladders who underwent endoscopic sphincterotomy for common-bile-duct stones. Of these, 18 eventually required cholecystectomy.

This literature review demonstrates that in the majority of elderly patients with symptomatic common-bile-duct stones and an intact gallbladder, endoscopic sphincterotomy is adequate therapy and that few subsequently require cholecystectomy.

Our results are similar to those in the literature: only 3 of 21 patients eventually required cholecystectomy. However, we found that patients who presented with cholangitis were at greater risk of cholecystitis requiring subsequent cholecystectomy (two of four patients). None of the 10 patients presenting with cholecystitis required cholecystectomy and only 1 of 7 patients presenting with cholecystitis and jaundice required cholecystectomy.

Therefore we recommend that in elderly debilitated patients presenting with cholecystitis, with or without jaundice, endoscopic sphincterotomy and stone extraction without delayed cholecystectomy is acceptable therapy. However, patients presenting with cholangitis and gallstones run the risk of subsequent cholecystectomy.

Table II

Patients Who Had Cholecystitis After Endoscopic Sphincterotomy

Patient no.	Age, yr	Sex	Duration of follow-up, yr	Attacks, no. and severity	Cholecystectomy
1	73	F	1.5	2, mild	No
2	87	F	1.5	1, mild	No
3	86	F	3	1, mild	No
4	89	M	2	1, severe	Yes
5	84	M	4	2, severe	Yes
6	*78*	F	4	2, mild	No
7	61	M	3.5	3, mild	No
8	71	F	4	2, mild	No
9	73	F	4	2, severe	Yes

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Notices
Avis

Medicine 2001

From June 19 to 23, 1996, a congress on new technologies, new realities and new communities in medicine will be held at the Palais des Congrès de Montréal, Montreal. The congress will focus on telemedicine: participants will have the opportunity to attend various demonstrations: teleradiology presentations between Montreal and Paris; telesurgery with a radio control robot and tactile feedback between Montreal and the Massachusetts Institute of Technology, Boston; and the use of telemedicine in disaster situations based on experience with the NASA Space Bridge during the earthquake in Armenia. The registration fee is $575 Can ($295 Can for university students with proof of student status). For further information contact: Conference Secretariat, COPLANOR Congrès Inc., 511 Place d'Armes, #600, Montreal QC H2Y 2W7. Tel.: 514 848-1133; fax: 514 288-6469; e-mail: **nutech@coplanor.qc.ca**

Conference on pain

Sponsored by the International Association for the Study of Pain (IASP), the 8th World Congress on Pain will be held Aug. 17 to 22, 1996, in Vancouver. All aspects of acute and chronic pain will be covered, including cancer pain, basic research and clinical management. For information contact: IASP Secretariat, 909 NE 43rd St., Suite 306, Seattle WA 98105, USA. Tel.: 206 547-6409; fax: 206 547-1703; e-mail: **IASP@locke.hs.washington.edu**

Sino-endoscopy '96

Sponsored by the Chinese Ministry of Health and International Health Exchange Center, the International College of Surgeons and Medical Books for China International, the First World Congress of Surgical Endoscopy will be held from Oct. 19 to 24, 1996, at the Beijing International Convention Center, Beijing, China. For further information contact: Dr. Jordan M. Phillips, General chairman, First World Congress of Surgical Endoscopy, 13021 East Florence Ave., Santa Fe Springs CA 90670-4505, USA. Tel.: 310 946-8774 or 800 554-2245; fax: 310 946-0073;
e-mail:
102254.3033@compuserve.com

Spinal cord repair and regeneration symposium

On Oct. 20 and 21, 1996, the Italian Association for Research on Spinal Cord Lesions will hold an international symposium in Brescia, Italy, on possible repair and palliative treatment of spinal cord lesions. Registration for the symposium is free. For further information contact the Organizing Secretariat, Studio Progress, Via Cattaneo, 51, 25121 Brescia, Italy. Tel.: 39-30-290326; fax: 39-30-40164

Magnetic resonance imaging course, Saudi Arabia

The departments of radiology, medical physics and medical studies of the Riyadh Armed Forces Hospital, Riyadh, Saudi Arabia, will sponsor their fifth international course on magnetic resonance (MR) imaging from Oct. 27 to 30, 1996. The course will provide an overview of MR technology, basic principles and current and future applications of MR imaging in the entire body. Current and potential applications of MR spectroscopy will also be discussed. The program will feature small-group workshops in basic physics and MR applications in the neurologic, musculoskeletal and genitourinary systems. The course chairman is Aabed Al Thagafi. The course fee is SR 1500 for physicians, SR 750 for medical staff in training and SR 400 for technicians. For information contact: Department of Medical Studies, Riyadh Armed Forces Hospital, PO Box 7897, Riyadh 11159, Saudi Arabia. Tel.: 966-1-477-7714, ext. 4933 or 4937; fax: 966-1-476-0853.