Endoscopic methods in the management of hepatic hydatid disease complications

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ÖZET: **Karacğer kist hidatiği komplikasyonlarının tedavisinde endoskopik metodlar**

Ocak 1990 - Şubat 1994 tarihleri arasında ERCP yapılan 62 hastada (28 kadın, 34 erkek) karaciğer kist hidatiğine bağlı bilier komplikasyon tespit edildi. Bu hastalardan 52'si kliniğimize başvurmadan önce opere edilmişlerdi. ERCP bulguları şu şekildeydi: Bilier Striktür 22, safra yolları ile iştirakli kavite 20, fistül 18, safra yollarında kız veziküller 6, kavite içinde veziküller 2. Elli hasta endoskopik olarak tedavi edildi. Endoskopik olarak uygulanan tedavi yöntemleri şöyleydi: naso-biliyer drenaj 28, endoskopik sfinkterotomi 5, balon dilatasyon 1, stent 11, balon ekstraksiyon 5. Kistik kavite NBD tedavisi ile ortalama 17 ± 5 gün sonra kayboldu. Stent yerleştirilen hastalar ortalama 30 ± 7 ay takip edildiler ve hepsi de asemtomatiktirler. Kaviteli 1 hastada ve safra yollarında kistik kavite bulunan 1 hastada endoskopik tedavi yeterli olmadı. Endoskopik tedavi hastaların %92'sinde başarılı oldu. Karaciğer kist hidatik hastalığına bağlı komplikasyonların tedavisinde endoskopik tedavinin etkin bir yöntem olduğu kanısına varıldı.

Anahtar kelimeler: **Kist hidatik, karaciğer, komplikasyon, endoskopi**

SUMMARY

From 1/90 to 2/95 we have observed 62 patients (28 female, 34 male) with complications of hepatic hydatid disease on ERCP. Fifty-two patients had been operated elsewhere. ERCP findings were as follows: Biliary stricture 23, cystic cavity communicating with biliary tree 20, fistula 18, cystic vesicles in biliary tree 6, cystic cavity within vesicles 2. Fifty patients were treated endoscopically. Endoscopic treatment modalities were as follows: naso-biliary drainage 28, endoscopic sphincterotomy 5, balloon dilatation 1, stenting 11, balloon extraction 5. Cystic cavity disappeared after the treatment with naso-biliary drainage for 17 ± 5 days in patients with cystic cavities. Patients treated with endoscopic stenting were followed 30 ± 7 months and they are asymptomatic. Endoscopic treatment failed in 2 patients with cystic cavities, in one patient with fistula and in one patient with cystic vesicles in biliary tree. Endoscopic treatment success rate is 92%. It is concluded that endoscopic treatment of hepatic hydatid disease complications is a successful modality.

Key words: **Ecchinococcus, hepatic, complication, endoscopy**

THE liver is the most common site of hydatid disease infestation and occurs in 50 - 70 % of all infected patients (1,2). Acute obstructive jaundice can occur in 5-25% of cases due to rupture of a liver cyst into the biliary tree (3-5). Surgical removal of cyst and closure of cavity by omentoplasty is the preferred therapy of uncomplicated hepatic hydatid disease (HHD), but this carries a high morbidity (6,7). Complications of HHD surgery are fistula (4-7%), bilioma, abscess, cholangitis (11%), and stricture formation (1,6-8). In some instances spontaneous infection of cyst and fistula developing may become. Surgical treatment of postoperative complications is difficult and carries high mortality and morbidity (1). We report here our experience about the endoscopic treatment of the HHD complications.

METHOD

From 1990 to 1994 50 patients with HHD complications that have been diagnosed at ERCP Unit of Yüksek İhtisas Hospital were treated endoscopically. ERCP were performed with Olympus JF 1T20 side viewing endoscope. Endoscopic sphincterotomy (ES) and balloon extraction of vesicles were performed in patients with daughter vesicles in biliary tree. If there was a fistula or a cystic cavity communicating with biliary tree, ES and naso-biliary drain (NBD) placement was performed. ES and stenting with or without balloon dilatation were performed in patients with biliary stricture. Ten french plastic straight stents were used. Patients having fistula or cavity were hospitalized until closure of the fistula or disappearance of the cavity was detected radiologically and than catheter was removed. Patients that have been placed stent were followed-up three monthly.

RESULTS

Sixty-two patients (28 female, 34 male) have diagnosed as having HHD complication. Mean age was 31.23 ± 11 years. Four of these had HHD due to echinococcus alveolaris. Fifty-two (84%) pa-

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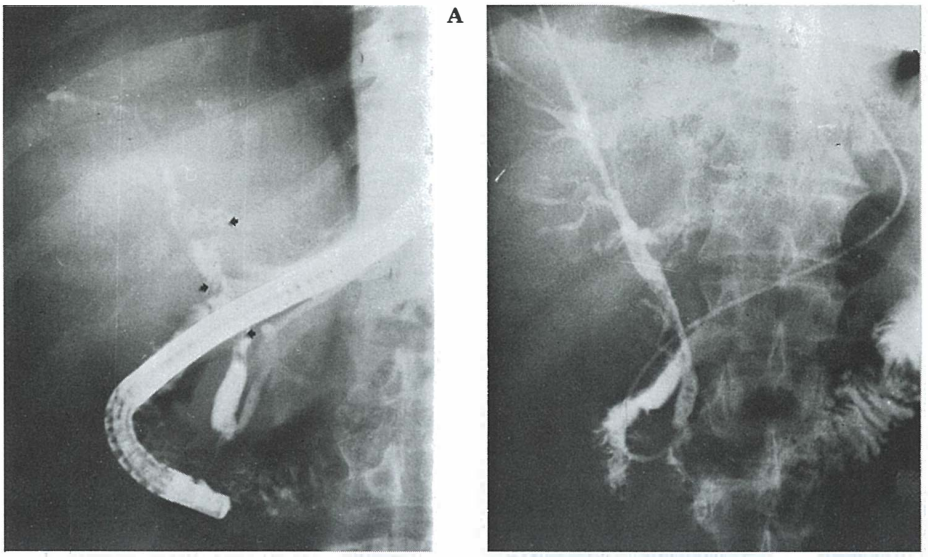

Figure 1. A. ERC demonstrates cystic vesicles in the biliary tree (arrows). **B.** Nasobiliary drain cholangiogram is seen after the removal of vesicles in CHD and CBD. Cavity is visible in this picture (Arrow).

tients had been operated elsewhere before admission. ERC findings are shown in Table 1.

Fifty patients (80%) treated by means of endoscopically. Endoscopic treatment modalities are shown in Table 2.

Balloon extraction following ES was performed 5 out of 6 patients with daughter vesicles in biliary tree (Figure 1). Extraction was successful in four cases, in 1 case the removal of vesicles were not satisfactory because of the proximal location of vesicles, so he was operated.

There were 18 patients with fistula. ES and NBD placement were performed in all 18 patients. Fistulas were closed in all but one after the mean period of 14 ± 7.2 days. The cause of the failure in that case was abscess formation on the third day of the NBD drainage.

Cystic cavities communicating with biliary tree were detected in 20 patients (Figure 2). NBD placed in 15 and ES were performed in 5 cases. Cystic cavities were disappeared radiologically after the 17 ± 5 days in 18 of 20 patients. NBD treatment were unsuccessful in 2 patients and these were reoperated.

In four patients HHD healed without any surgical intervention. In 2 patients percutaneous drainage had been performed before the admission because of suspicion of liver abscess and when the bilious and purulent material had been aspirated they referred to our hospital for ERCP. Cystic cavity communicating with biliary tree and vesicles in biliary tree were detected at ERC in these 2 patients. ES, removal of cystic material and NBD placement were performed. Cavities disappeared in 13 and 45 days. Other two cases were referred to us with suspicion of biliary stone although there were cystic appearance in the liver on ultrasonography. We detected cystic vesicles in biliary tree and cystic cavitiy communicating with biliary tree at ERC. Endoscopic removal of cystic material in two and naso-biliary drainage of cavities in one were performed. One of them were followed-up 11 months and his cavity disappeared on ultrasonography. In the other case ERC performed just before 2 months and he is following-up.

There were biliary stricture in 23 cases. Twelve of 23 were treated endoscopically. Balloon dilatation in one, balloon dilatation and stenting in five, stenting in five (Fig 3), percutaneous and endo-

Table 1. *ERC Findings and Frequencies*

ERC finding	Friquency
Biliary Stricture	22
Cavity communicating with biliary tree	20
Fistula	18
Bilio-bronchial	5
Bilio-cutaneous	11
Bilio-bronchial + Bilio-cutenous	3
Bilio-enteric	1
Cystic Vesicles in Biliary Tree	6
Cystic Cavity with Vesicles	2

Table 2. *Endoscopic Treatment Modalities and Frequencies*

Endoscopic Treatment Modality	Friquency
Endoscopic sphincterotomy (ES) + NBD	28
ES	5
ES + Balloon dilatation	1
ES + Ballon Dilatation + Stenting	5
ES + Stenting	5
ES + Balloon extraction	5
Percutaneous + Endoscopic combined stenting	1

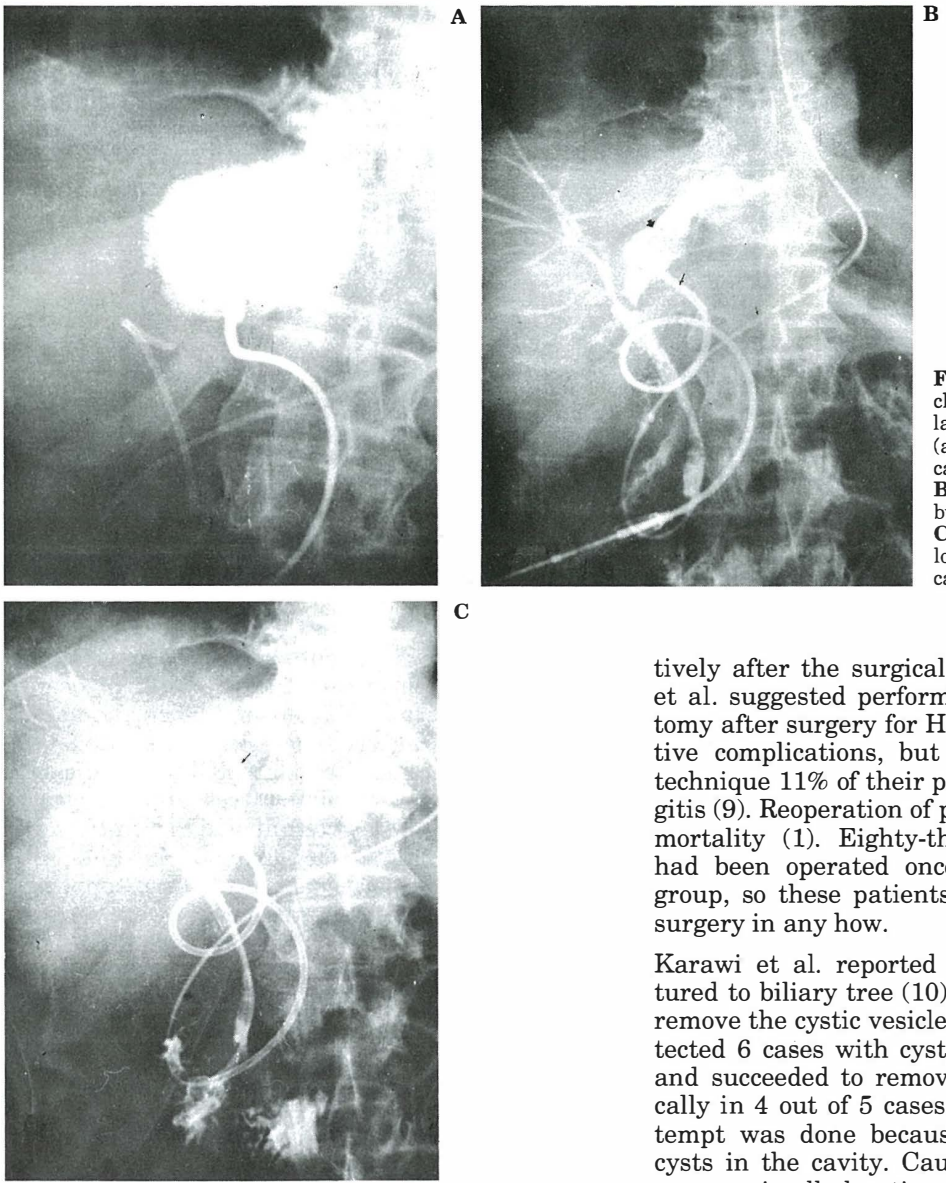

Figure 2. A. Naso-biliary drain cholangiogram demonstrates a large cavity in the left lobe (arrows). A percutaneous drain catheter in situ.
B. One week later cavity is seen, but small.
C. Two weeks later cavity is no longer seen. Percutaneous catheter in situ (arrow)

scopic combined stenting in one were performed following ES. Nine of these patients were followed-up for mean 30.7 ± 11 months. In three out of nine patients, stents were removed after mean period of 27. 33 ± 8 months and they were followed -up for mean 27.3 months and they are asymptomatic.

Endoscopic management is successful in 46 out of 50 patients. Success rate is 92%. There was no complication due to endoscopic treatment. None of the patients died.

DISCUSSION

HHD is frequent in eastern countries. The initial treatment is removal of cyst surgically. The risk of fistula and cholangitis is 4-7% and 11% respectively after the surgical treatment (1,6-8). Alper et al. suggested performing choledochoduodenostomy after surgery for HHD to prevent postoperative complications, but despite the use of this technique 11% of their patients developed cholangitis (9). Reoperation of patient carries a 1.4-4.7 % mortality (1). Eighty-three percent of patients had been operated once or more in our study group, so these patients are poor candidates for surgery in any how.

Karawi et al. reported 6 cases with HHD ruptured to biliary tree (10). They were successful to remove the cystic vesicles in all cases. We also detected 6 cases with cystic vesicles in biliary tree and succeeded to remove the vesicles endoscopically in 4 out of 5 cases. In the sixth case no attempt was done because there were daughter cysts in the cavity. Cause of failure in one case was proximally location of the vesicles. There was not any previous surgical intervention in 3 out of 4 cases and healing of HHD was obtained by endoscopic treatment. In one case cystic cavity had been infected spontaneously and some of the infected material had been drained out by cutaneous fistula or to biliary tree. Probably there was not any living cystic material in the cavity when ERCP was performed. In the latter two cases probably all of the vesicles had been drained to the biliary tree before the endoscopic treatment. Three of these cases were followed for more than 8 months and all cavities disappeared at ultrasonography. Endoscopic treatment had been performed only two months ago in the last case so we can not interpret this case.

It had been reported that good results were obtained using ES in the management of postoperative fistulas and cholangitis (1,2). NBD had not

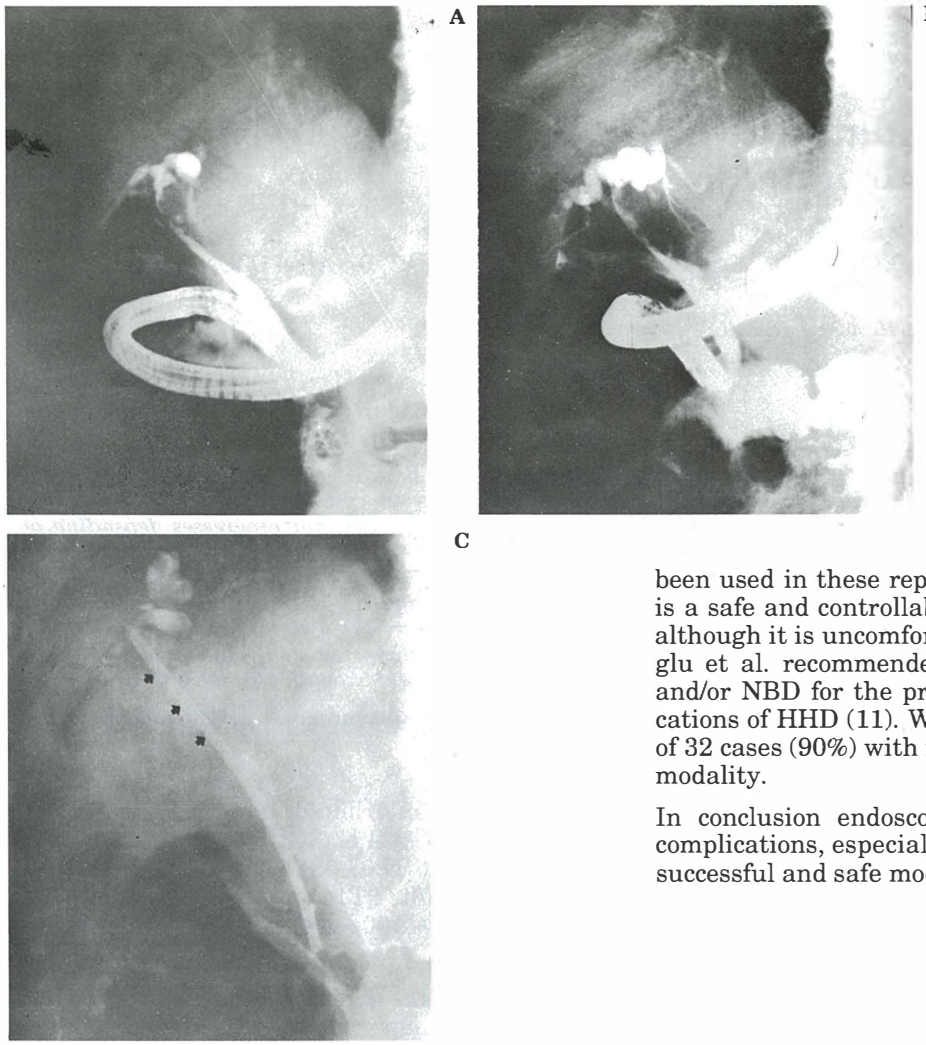

Figure 3. A. ERC demonstrates a benign biliary stricture due to previous hepatic hydatid disease surgery through the CHD. A stone located proximal to the stricture is seen (arrow)
B. ERC after the stone extraction
C. A 10 F gauge stent is in place (arrows).

been used in these reports. Naso-biliary drainage is a safe and controllable modality in our opinion although it is uncomfortable for the patient. Akoglu et al. recommended a selective policy of ES and/or NBD for the pre- or postoperative complications of HHD (11). We were successful in 29 out of 32 cases (90%) with fistulas and cavities by this modality.

In conclusion endoscopic management of HHD complications, especially in operated patients is a successful and safe modality.

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