

Effect of Ursodeoxycolicacid in Treatment of Bile Gastritis

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Article information	Abstract
Article history: Received: 30 Jan 2011 Accepted: 11 May 2011 Available online: 19 Oct 2011	<p>Background: Bile gastritis (gastropathy) is a kind of gastritis which is caused by reflux of bile contents through duodenum on stomach. It can occur spontaneously without any former gastric surgeries which affect sphincter of pylorus. The positive impact of some certain drugs such as prokinetic agents e.g. metoclopramide, Proton-pump inhibitors (PPIs), cholestyramine and sucralfate in treating bile gastritis has been confirmed. This study has been conducted in order to analyze the effect of ursodeoxycholic acid (UDCA), which is a harmless drug, on patients with the bile gastritis.</p> <p>Materials and Methods: In this clinical trial, all patients with dyspepsia who were qualified to undertake endoscopy were enrolled and then 60 patients with bile gastritis were selected for the study. The patients were divided into two groups; a group was treated by UDCA, omeprazole and sucralfate and another one was treated with placebo, omeprazole and sucralfate for two weeks. Finally, at the end of the third week of treatment patients were examined.</p> <p>Results: A total of sixty 19-70 year-old patients (Mean: 46 years old) included in this study. At the end of the study, there was not found any meaningful difference between the two groups in terms of pain intensity, heartburn intensity, severity of bloating, vomiting and early satiety; however, each group independently showed improvement of the mentioned indices after termination of the treatment ($p=0.0005$).</p> <p>Conclusion: Adding UDCA to the standard treatment (sucralfate) is not clinically effective in curing the bile gastritis.</p>
Keywords: UDCA Bile Gastropathy Gastritis	
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Introduction

Bile gastritis is a kind of gastritis which is caused by reflux of bile contents through duodenum on stomach [1]. Stomach pH is increased when bile pours in it and its bile acids cause mucosal lesions [2]. Bile reflux on stomach makes many complications including peptic ulcer, antral gastritis, bile gastritis, stomach gastric cancer, esophageal stricture and dysphasia [3]. Bile gastritis is a common disorder which usually occurs after stomach surgeries in which sphincter of pylorus are damaged (secondary bile gastritis) [2, 4]. Sometimes it can occurs spontaneously without former surgeries (primary bile gastritis) [2], particularly in addicted people to opiates [4]. Because of bile reflux on stomach, Patients with bile gastropathy suffer from abdominal pain, vomiting and nausea, which are severer after eating [5]. Upper endoscopy of patients with bile gastritis shows gastric mucosal erythema and epithelial damage [6]. There are diverse treatments for patients suffering from bile gastritis; however, often treating with resins binding bile and sucralfate is difficult [6]. Different drugs including sucralfate, prokinetic agents like metoclopramide, proton-pump inhibitors (PPIs), H₂ blockers, cholestyramine as well as surgical treatments such as *choleoduocojejunosotomy* have been offered for treating bile gastritis [8]. Ursodeoxycholic acid (UDCA), which is used to treat cholestatic liver disease and gallstones, decreases bile movement towards stomach and

changes bile contents, hence reduces intensity and repetition of symptoms; however, some contradictory results have been gained through applying this drug for patients with bile gastritis [8, 9].

Regarding low side effects of UDCA and lack of sufficient studies on effect of the mentioned drug in treating bile gastritis, this study was conducted.

Materials and Methods

In this randomized double-blind controlled clinical trial all patients who have referred to clinic because of dyspepsia and were volunteer to undertake endoscopy and were positive in terms of having bile gastritis, were enrolled in the study after endorsing a written consent. Secondary bile gastropathy, malignancies, peptic ulcer or any additional pathology made volunteers unqualified for the study were excluded from study. The allocation of patients was set through blocked randomization. All demographic information and symptoms of patients along with the clinical and endoscopic signs were recorded using questionnaires before beginning treatment. The patients were divided into two groups; case group was treated by UDCA, omeprazole and sucralfate and control group was treated with placebo, omeprazole and sucralfate for two weeks. Then no treatment was practiced for one week and finally, at the end of the third week of

treatment patients were reexamined. The descriptive tests of χ^2 , McNemar and variance analysis tests were used to compare two groups. $p < 0.05$ is considered meaningful.

Results

A total of 60 patients including 24 women and 36 men enrolled in the study. Age range was 19 to 70 years, with a mean of 46 years. Out which 38 individuals (63%) were addicted to opium. Epigastric pain in 55 patients (92%), bloating in 56 patients (93%), heartburn in 50 patients (83%), early satiety in 27 patients (45%) and vomiting after eating in 34 patients (64%) were seen. The results indicated that no meaningful difference was obtained between two groups in average values of various indices including pain intensity, heartburn, bloating before treatment and also after treatment (Table 1). However, each group independently experienced better results after taking treatments ($p=0.0005$).

Table 1. Comparison of pain intensity, heartburning and bloating before and after treatment

Variable	Group	Mean±SD	p-Value
Bloating	Before T _x	Case	2.83±1.34
		Control	3.03±1.31
	After T _x	Case	2.37±1.27
		Control	1.63±1.09
Heartburn	Before T _x	Case	2.90±1.44
		Control	2.57±1.54
	After T _x	Case	1.43±1.22
		Control	1.43± 1.13
Pain	Before T _x	Case	5.4± 3.46
		Control	6.63± 3.10
	After T _x	Case	2.10± 2.63
		Control	2.73± 2.86

T_x: treatment

Likewise, although early satiety and vomiting after eating values decreased in each group ($p=0.0005$) but didn't show any meaningful difference between the both groups (Table 2).

Table 2. Comparing early satiety and vomiting before and after eating

Variable	Early satiety				Vomiting			
	Before T _x		After T _x		Before T _x		After T _x	
	-	+	-	+	-	+	-	+
Case	12	18	6	24	17	13	4	26
Control	15	15	6	24	17	13	4	26

Discussion

Our study illustrated that adding UDCA to sucralfate is not effective to reduce symptoms in patients with bile gastropathy. UDCA alleviates gastritis via changing bile acids composition and decreasing epidermal growth factor in stomach, thus, it has been used to treat bile gastropathy caused by gastric or gallbladder surgeries, ie; secodry bile gastropathy [3, 4, 8, 9]. However, it has not been approved as the standard treatment for the bile gastritis

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yet. The recovery rate in pain intensity, heartburn, early satiety, nausea and vomiting developed after treatment in both groups have considerable statistical value which it can be attributed to sucralfate rather UDCA. Therefore, it can be said that according to our study adding UDCA to sucralfate is futile to cure bile gastropathy and patients do not need to pay more costs for their treatment. However, we cannot reject any effective role for UDCA in treating bile gastritis and any more comments about this issue entails more studies on bigger samples and comparing them with other treatments such as sucralfate.

Stefaniwsky et al. studied 12 patients with the secondary bile gastritis; they prescribed 1000 mg UDCA per day for the test case group and 1000 mg placebo for the control group. When the treatment period was wrapped up, patients in UDCA group showed a considerable improvement; however, no effect was seen on the endoscopic profile.

Analysis of amount and type of the bile acids during treatment UDCA constituted 50 percent of whole bile acids, but amounts of colic acid and deoxy-colic have been decreased and the author concluded that the increased amounts of UDCA causes alleviate bile gastritis [8]. Most previous studies and even medical texts, bile gastritis has been introduced as the disorder caused by gastric and gallbladder surgeries [3, 4], Only one reason has been pointed as a non-surgical cause for this disease [4, 5], but it is expected that both of them have identical pathology, symptoms and even treatments [7].

With regard to the fact that in our study, variables have been based on questionnaires filled by patients (i.e. subjective signs and criteria), hence personal comments of patients may affect the results and objective criteria such as endoscopy after treatment, measuring bile salts of stomach and/or pathology have not been used. Therefore, it may prevent us to analyze precisely the effect of UDCA on treating bile gastropathy. More complete studies based on objective criteria can complete the study in future.

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Authors' Contributions

All autors contributed in design, working, statistical analysis and manuscript writing.

Conflict of Interest

No conflict.

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