

# BILIARY TRACT DYSKINESIA

Pages with reference to book, From 69 To 70

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## Abstract

The radiological report of gall bladder contraction 60 minutes after fatty meal, was compared with the computed volume and contraction of gall bladder using Siffert's technique. Of 46 oral cholecystograms, 34 were reported to be normal and 12 as poor contraction. On computation only 14 were found to be normal and 32 showed poor contraction. The difference was statistically significant (JPMA 39: 69, 1989).

## INTRODUCTION

Dyskinesia or motor disorder of the biliary tract is a poorly recognised entity though many patients with apparently normal oral cholecystograms are symptomatic and complain of pain in the epigastrium or right hypochondrium of varying severity, dyspepsia with a feeling of fullness or heaviness in the upper abdomen, bloating, flatulence and an intolerance to fried or fatty foods. Many methods are available to investigate biliary tract function, but in an under-developed country it is important to have a cost effective screening test, before subjecting the patient to more expensive and sophisticated procedures to confirm biliary dyskinesia. With this aim in view, we studied 46 oral cholecystograms (OCG) reported by competent radiologists in the city of Karachi, and used them to calculate the gall bladder volumes both 14 hours after oral dye and 60 min. after fatty meal (AFM), utilising Siffert's technique of computing gall bladder volume<sup>1</sup> - The amount of gall bladder contraction so calculated, was used as the criteria for suspecting gall bladder dyskinesia. The radiologist's opinion of a "normal" or a "poor" contraction was also compared with the computed contraction in each case.

## MATERIAL AND METHODS

Forty-six OCG films showing the gall bladder shadow in the prone position, both 14 hours after oral dye (telepaque) and 60 minutes after a standard fatty meal, were used to determine the gall bladder volume in the fasting state and 60 minutes AFM. The amount of gall bladder contraction was calculated in each case. The contraction was said to be normal when the gall bladder volume had decreased by 75% or more, 60 minutes AFM. Statistical analysis was done using student's 'V' test.

## RESULTS

Thirty-four (74%) OCGs were reported as showing a "normal" contraction whereas the remaining 12 (26%) were described as showing a "poor" contraction 60 minutes AFM. On computing the gall bladder volume in the fasting state and at 60 minutes after a standard fatty meal, and thereafter calculating the gall bladder contraction, only 14 (30.4%) showed 75% or more contraction whereas the remaining 32 (69.6%) showed less than 75% contraction. The difference in the reported and the computed results were statistically significant ( $P < 0.05$ ). Of the 46 OCGs, clinical information was available in 16 (12 females and 4 males) only. Their ages ranged from 27 to 65 years with a mean of 44.3 years. Ten (62.5%) of the 16 patients originated from the Indian part of the Subcontinent by birth. Parity in female patients ranged from 1 to 9 with a mean of 5.17. Ten (62.5%) patients complained of pain in the epigastrium and/or right hypochondrium. Three complained of heaviness after meals while

the remaining 3 had burning sensation in the upper abdomen. Nine (56.3%) of these patients had OCG reported as normal whereas the remaining 7 (43.7%) were reported as poor contraction AFM. On computation by Siffert's technique, only 3 (18.8%) showed 75% or more contraction and the remaining 13 (81.2%) showed less than 75% contraction 60 minutes AFM. This difference in the reported and computed results was again found to be statistically significant ( $P < 0.05$ ).

## **DISCUSSION**

Presence of motor dysfunction of the biliary tract should be considered in all those who have symptoms which can be ascribed to biliary tract disorders. Oral cholecystogram, which is a relatively inexpensive and easily available diagnostic procedure should be done in all such patients. This would not only help in ruling out most of the organic lesions of the extra hepatic biliary tract such as gall stones, but could also be used to compute the gall bladder volume and thereby to determine the amount of gall bladder contraction. The contractility and kinetic activity can be interpreted to be normal when the gall bladder volume is reduced by 75% at 60 minutes after a fatty meal<sup>2</sup>. The practice of describing gall bladder contraction at oral cholecystography as "normal" or "poor" by visual estimation, though convenient and time saving, may not be accurate as has been shown by this study. Therefore at least in doubtful or borderline cases, the method of computing gall bladder volume and thereby determining the amount of contraction should be useful, scientific and at the same time a cost effective approach. It is suggested that patients with symptoms suggestive of biliary tract disorder having a computed gall bladder contraction of less than 75% should be followed and treated as biliary dyskinesia unless subsequently proved otherwise. A film 36 hours after administration of oral contrast should also be taken. Persistent visualization of gall bladder till 36 hours also suggest dyskinesia. Moreover to make the prospective studies more valid the incidence of abnormal contraction in controls should also be studied.

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