

There were two post operative deaths in neoplastic group. Ultrasonography, ERCP, PTC and laparoscopy made a significant breakthrough in the management.

Surgical relief of jaundice by removing the cause or by-passing obstructive lesions alongwith cytotoxic therapy offered the best prospect for the patients. Rodney Smith's mucosal graft technique of Hepatico-Duodeno-Jejunostomy proved to be effective palliative procedure even in neoplastic lesions.

### A/G-82

**COMPARATIVE ANALYSIS OF RESULTS OF PROSPECTIVE CLINICAL TRIAL OF HIGHLY SELECTIVE VAGOTOMY (HSV) VERSUS CONVENTIONAL SURGERY FOR CHRONIC DUODENAL ULCER** BRIG AK SENSARMA, COL N RAY, MAJ GEN HC PURI, LT GEN AM AHUJA, Command Hospital (EC), Calcutta.

300 patients with chronic duodenal ulcer (age 25 to 65 years) were prospectively treated with either HSV (100) or one of the other conventional operations - trunkal vagotomy (TV) + gastrojejunostomy (100); TV + pyloroplasty (75); selective vagotomy + drainage (10); TV + antrectomy (10) and partial gastrectomy (15). HSV led to negative Hollander's in 96%, but delayed positive response was seen after 1 to 2 years. The acid responses were reduced by 60 - 75% of the preoperative levels in HSV group. Dumping or diarrhoea were not seen in HSV group, but were not uncommon in other groups. There was no operative or postoperative mortality in any group. HSV was found to yield the best results with the highest cure rate, lowest recurrence rate and highest functional recovery (Visick's grading) on follow up between 6 months and 7 years.

HALL II

Friday, November 2, 1984

1100 - 1225 hrs

Chairpersons : **BL TALWAR**, Chandigarh  
**RK TANDON**, New Delhi

## GALL BLADDER AND BILIARY TRACT

### A/G-83

**EFFECTS OF METRONIDAZOLE AND LACTULOSE ON GALLSTONE FORMATION IN HAMSTERS** RK TANDON\*, S PAUL, N SINGH, Department of Gastroenterology, All India Institute of Medical Sciences, New Delhi 110 029.

Metronidazole as well as lactulose have been shown to reduce the cholesterol saturation of bile in gallstone patients. The effect of this change on gallstone formation has been studied by us in hamsters. 39 male golden hamsters weighing 70-120 gms were divided into 4 groups for study. Group I (6 animals) was fed normal chow and served as control. Group II (10 animals) was fed a high glucose, low fat lithogenic diet. The remaining hamsters were fed the same diet but allowed ad libitum to drink 0.2% solution of metronidazole (Group III, 12 hamsters) or to take 13.6% wt./wt. lactulose mixed in diet (Group IV, 11 hamsters). Animals belonging to the same group were caged together in lots of 3 or 4. Straw was not provided in any of the cages. All animals were weighed and their food consumptions noted weekly. They were sacrificed after 8 weeks and studied as indicated in the table (only mean values given).

(n)	I (6)	II (10)	III (12)	IV (11)
Cholesterol stones or crystals	0	8*	3*	2**
Cholesterol saturation Index	0.74	1.62*	1.20	1.06**
Serum cholesterol	178.7	134.7	77.4	103.8
Serum triglyceride	110.7	104.3	92.6	11.6

\* Significantly different from I

\*\* Significantly different from II

It is concluded that both metronidazole and lactulose prevent gallstone formation in hamsters with changes in bile and serum lipids shown in the table.

### A/G-84

**DIETARY AND SERUM LIPID PATTERNS IN GALLSTONE PATIENTS** S PAUL\*, K KUMAR,

BM GANDHI, BML KAPUR, RK TANDON, Department of Gastroenterology and Human Nutrition, All India Institute of Medical Sciences, New Delhi 110 029.

An inter-relationship of diet, serum lipids and gallstones has been suspected for long but remains to be proved. In a case-control study 200 gallstone (GS) patients and 90 age, sex and social class-matched controls (C) were studied for their dietary intake by one-day recall method and for their serum lipid profile by dual precipitation technique. Important results are shown in the table separately for males and females (only mean values).

	(n)	Daily Dietary Intake			Serum lipoproteins (mg/dl)	
		Total calories (Kcal)	Carbohydrate (g)	Refined carbohydrate (g)	Serum cholesterol	Serum triglyceride
<b>MALES</b>						
GS	(50)	2163 **	288 ***	37.81	166.40 **	182.65 **
C	(30)	1802	236	28.70	140.26	133.18
<b>FEMALES</b>						
GS	(150)	1744 *	238 *	35.60 ***	164.10	188.18 **
C	(60)	1603	216	24.49	167.38	144.70

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$  compared with controls.

It is concluded that GS patients have a higher intake of calories than the normal people in the same community and this increased calorie intake is contributed mostly by an increased carbohydrate intake particularly of refined carbohydrates, at least in the females. The most characteristic change in the lipid pattern is the increased serum triglyceride value in GS patients as compared with C; it is mostly because of an increase in the VLDL fraction of triglycerides (not shown in the table). The serum triglyceride rise in gallstone patients may simply be a reflection of the increased carbohydrate intake in them.

### A/G-85 SERUM TRIHYDROXY/DIHYDROXY BILE ACID RATIO IN PATIENTS WITH SURGICAL OBSTRUCTIVE JAUNDICE

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A decrease in the serum trihydroxy/dihydroxy bile acid ratio (Tri/Di) has been shown to occur in hepato-cellular disease because of a selective decrease in cholic acid synthesis. Such a decrease in Tri/Di is not expected in surgical obstructive jaundice (SOJ) unless there has occurred some hepatocellular damage secondary to the raised intrabiliary pressure and infection. The latter development however, adds enormously to the risk of complications and mortality in patients with SOJ. In the present study, we have determined the Tri/Di in 15 SOJ patients before and after decompression, i.e. relief of obstruction to see if the development of hepatic dysfunction could be detected in them early. A 2-hour post-prandial serum bile acid estimation was done in each patient 7 and 2 days prior to and 2 and 7 days after the decompression. The trihydroxy and dihydroxy bile acid fractions were separated by thin layer chromatography and then quantified by the enzymatic method using Sterognost 3R-flu. The mean preoperative Tri/Di in all the patients was  $1.093 \pm 0.36$  which is much higher than  $0.35 \pm 0.29$  reported by us earlier in cirrhosis of the liver. No significant difference was found in the mean values obtained in our patients with benign causes of obstruction from those with malignant causes and there was no significant change in either case upto 7 days after relief of the biliary obstruction. In 5 patients, the preoperative Tri/Di was less than 1, thus pointing to the presence of some associated hepatocellular dysfunction in them. Four of these patients had advanced or long standing malignant lesions. It is concluded that the Tri/Di can differentiate patients with SOJ quite discretely from those with hepatocellular jaundice and may also be able to indicate in the former any associated hepatocellular dysfunction.