

#25 - SALMONELLA TYPHI (ST) AND GALLBLADDER PRENEOPLASTIC LESIONS IN PATIENTS UNDERGOING ELECTIVE CHOLECYSTECTOMY CHILE, 2017-2019.

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Introduction: Chile has high mortality for gallbladder cancer (GBC). Gallstones are the primary risk factor, however, 1-3% of cholelithiasis cases develop GBC. Chronic carriage of Salmonella Typhi (ST) is more prevalent among gallstones carriers, suggesting a potential risk factor for GBC. A previous study found prevalences of 3.8% for ST and 3.5% for S.Paratyphi A/B in Chilean patients undergoing cholecystectomies.

Objective: To analyze preneoplastic lesions and ST carriage in patients undergoing elective cholecystectomy.

Methods: Between 2017-2019, we enrolled 2,247 patients at four Santiago hospitals. Histopathological examination, culture, and PCR were performed on bile and gallstones. IgG Vi antibodies were tested in sera. 1216(54.2%) participants were >55 years, while 1031 (45.8%) were between 18-34 years-old.

Results: 468 individuals had preneoplastic lesions: 381(17.0%) metaplasia, 56(2.5%) LGD, 10(0.5%) HGD, and 21(0.9%) GBC. Young women had higher prevalence of lesions than men (OR=3.1(1.6-6.1)). The presence of gallstones was associated with a higher incidence of lesions in both age groups (OR=2.0 (1.5-2.8)). We did not culture ST. One older woman tested positive for S. Paratyphi B in the bile culture. Three older participants had positive PCR for ST in gallstones, and one of them had a positive PCR for ST in bile. Among them, two participants had high levels of anti-Vi antibodies, indicating potential chronic carriage. Only one of the four cases (S. Paratyphi B) had a gallbladder lesion (GBC).

The overall prevalence of ST/S.Paratyphi was low(1.8/1000 cases). However, among individuals with high-grade dysplasia and worse lesions (32.3/1000; PRR:8.9 (1.8-43.5)), it was much higher.

Conclusion: The study suggests a possible link between chronic ST/Paratyphi infection and preneoplastic lesions in the older group, including GBC. However, due to the low prevalence of suspicious chronic carriers, it is challenging to separate this effect from the effect of age itself.

Table 1 Chronic *Salmonella typhi* infection and gallbladder lesions among 2,247 patients undergoing cholecystectomy. Santiago 2017-2019.

Gallbladder histology	All	≥55 years	18-35 years	¹ p value for age Group difference
	N=2247 (100%)	N=1216 (54.2%)	N=1031 (45.8%)	
All lesions	N=468	N=317	N=151	
Metaplasia	381 (17.0)	251 (20.6)	130 (12.6)	
Low grade dysplasia	56 (2.5)	35 (2.9)	21 (2.0)	<.0001
High grade dysplasia	10 (0.5)	10 (0.8)	0	
Cancer	21 (0.9)	21 (1.7)	0	
Metaplasia and worse lesions	N=468	N=317	N=151	
Gallstones presence [1804]	412 (22.8)	279 (29.2)	133 (15.7)	<.0001
Gallstone absence [443]	56 (13.0)	38 (15.0)	18 (10.0)	0.1
OR gallstone groups ²	2.0 (1.5-2.8)	1.7 (1.0-2.8)	2.4 (1.7-3.5)	
Women [1673]	353 (21.1)	212 (26.1)	141 (16.4)	<.0001
Men [574]	115 (20.0)	105 (26.0)	10 (5.9)	<.0001
OR sex groups ²	1.1 (0.8-1.4)	1.0 (0.8-1.3)	3.1 (1.6-6.1)	
Probable Salmonella Typhi or Paratyphi	N=4 (0.2)	N=4 (0.3)	N=0	PRR (95% CI)
Metaplasia and worse lesions ³ [468]	1 (0.2)	1 (0.3)	-	0.95 (0.2-4.8)
LGD and worse lesions ³ [87]	1 (1.2)	1 (1.5)	-	4.2 (0.8-23.3)
HGD and worse lesions ⁴ [31]	1 (3.2)	1 (3.2)	-	8.9 (1.8-43.5)
Cancer ⁴ [21]	1 (4.8)	1 (4.8)	-	12.4 (2.6-58.6)

¹Univariable Chi-square or T-test; ²OR (95%CI) Metaplasia and worse lesions by sex and gallstone status, age adjusted; ³Log regression model adjusted by age, sex, type of hospital and gallstone status; ⁴Model estimated on >>55 years only, adjusted by sex, type of hospital and gallstones status.
*Values are number (percentage) unless otherwise stated