An analysis of surgical decisions made during laparoscopic cholecystectomy in patients with incidental gallbladder cancer

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INTRODUCTION:

Prognosis for gallbladder cancer (GBC) is poor, and surgical resection remains the only modality to offer a chance of cure.¹ Up to 30% of GBCs are discovered incidentally during histopathologic examination of gallbladders following cholecystectomy.² Tumor seeding can occur if there is bile spillage during these cases.³ Thus, if GBC is suspected intraoperatively or preoperatively, specialist consultation is advised. We sought to identify if errors in surgical decision making were common in these cases.

OBJECTIVE:

To identify modifiable surgical decisions in cases of incidental gallbladder cancer where bile spillage may have been preventable.

METHODS:

We completed a retrospective analysis of patients that were treated for gallbladder cancer in Calgary between 2008 and 2012. We identified those patients in which gallbladder cancer was identified incidentally during a laparoscopic cholecystectomy or on pathology. We searched through their respective operative reports looking for events of bile spillage.

PROPORTION OF CASES WHERE BILE SPILLAGE OCCURRED TO UNDERGO RADICAL RESECTION

Bile Spill	Radical Resection	Proportion	P-Value
Yes	5/11	45.45%	0.05
No	13/16	81.25%	

OVERALL SURVIVAL OF PATIENTS WHO UNDERWENT RADICAL RESECTION VS NO RADICAL RESECTION

DISEASE FREE AND OVERALL SURVIVAL OF PATIENTS WITH BILE SPILLGE VS NO SPILLAGE

Disease Free Survival

Overall Survival

RESULTS:

INCIDENTAL GALLBLADDER CANCERS WITH BILE SPILLS DURING LAPAROSCOPIC CHOLECYSTECTOMY

Age	Bile Spill	Preoperative Imaging		OR Report of Malignancy	T Stage
	Intentional or Accidental	Ultrasound	CT Scan		
61	Accidental	Calculi	N/A	None	T3Nx
64	Accidental	N/A	Cholecystitis	None	T2N1
53	Intentional	CBD Stone	N/A	None	T3Nx
68	Intentional	N/A	Cholecystitis	None	T2Nx
62	Intentional	Cholecystitis	N/A	None	T3N1
53	Intentional	Cholecystitis	N/A	None	T1bNx
50	Intentional	**Possible Malignancy	N/A	**Suspicious Lesion	T3Nx
60	Intentional	Calculi	N/A	**Suspicious Nodularity	T2Nx
52	Accidental	N/A	N/A	Conv to open	T3N1
70	Accidental	Calculi	N/A	**Suspicious Lesion	T2Nx
85	Intentional	CBD Stone	N/A	**Suspicious Lesion, Conv to open	T3Nx

CONCLUSION:

In summary, we identified 5 out of 27 cases of incidental GBC where different surgical decisions may have prevented a bile spill. Patients with bile spillage were less likely to have a radical resection performed and had a significantly shorter disease free survival. Surgeons performing cholecystectomies must be aware of the signs of gallbladder cancer and be prepared to alter the surgical plan based on a high index of suspicion.

References:

- Groen, PC., Gores, GJ., LaRusso, NF., *et al.* Biliary tract cancers. *NEJM.* (1999). 341:1368-78.
- Cho, SY., Park, SJ., Kim, SH., *et al.* Comparative analysis between clinical outcomes of primary radical resection and second completion radical resection for T2 gallbladder cancer: single-center experience. *World J Surg.* (2010). 34(7):1572-8.
- Wibbenmeyer, LA., Wade, TP., Chen, RC., *et al.* Laparoscopic cholecystectomy can disseminate in situ carcinoma of the gallbladder. *J Am Coll Surg.* (1995). 181(6):504-10.