



Efficacy of  
**LAPAROSCOPIC CHOLECYSTECTOMY**  
for the treatment **BILIARY DYSKINESIA**  
in the **PEDIATRIC POPULATION**

THE UNIVERSITY of  
**TENNESSEE**   
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# PURPOSE

- Chronic abdominal pain affects 9-15% of pediatric patients<sup>1</sup>
- Diagnosis of biliary disease has increased<sup>2</sup>
  - Acalculous biliary disease by 348%
  - Acute acalculous cholecystitis by 139%
  - Chronic acalculous cholecystitis 138%
  - Number of biliary disease diagnoses in pediatrics has tripled<sup>3</sup>
- Number of cholecystectomies have increased
  - Adults 618 → 800 (29%)<sup>2</sup>
  - Pediatrics ( )<sup>3</sup>
- Is this intervention efficacious?

1. Ramchandani, PG, Hotopf, M, Sandhu, B, Stein, A. The epidemiology of recurrent abdominal pain from 2 to 6 years of age: results of a large, population-based study. *Pediatrics* 2005; 116:46.
2. Johanning, JM, Gruenberg JC. The changing face of cholecystectomy. *Am Surgeon*. 1998, 64; 647-8
3. Wang G, Dietz WH: Economic Burden of Obesity in Youths Aged 6-17: *Pediatrics* 2002; 109; 81-6



# METHODS

- IRB approval
- Retrospective review of patient charts
- Correlated with diagnosis and degree of biliary dyskinesia
  - BD defined as ultrasonography without evidence of cholelithiasis with clinical symptoms of biliary colic
  - HIDA scan: performed in dynamic fashion over 75 minutes with injection 1 mg of CCK at 45 minutes. EF <35% considered abnormal
- Telephone interview conducted by scripted categorical questions
- Data Analyzed using chi square test



# RESULTS

- 184 patients underwent Lap Chole
  - May 2003- May 2006
  - 117 for biliary dyskinesia with 108 available for follow up
    - 48 for cholelithiasis
    - 17 for chronic cholecystitis
    - 2 for pancreatitis
  - Mean age 14.1 years old
  - Mean follow-up was 8.3 months



# RESULTS

- Of those undergoing laparoscopic cholecystectomy for biliary dyskinesia ...97.1% claimed surgery beneficial
  - 63.9% reported resolution of symptoms
  - 27.8% reported improvement in symptoms
  - 8.3% reported failure of intervention



# RESULTS

## ■ Scintigraphy and Postoperative Outcomes:

EF on HIDA	Post cholecystectomy outcomes			(n)
	Resolved	Improved	Failure	
EF <15%	67.7%	23.1%	9.2%	65
EF 15-35%	56.8%	40.5%	0.7%	37
EF >35%	60%	20%	20%	5

$p > 0.5$

# RESULTS

## ■ Pathology and Postoperative Outcomes

Path	Post Cholecystectomy Outcomes			(n)
	Resolved	Improved	Failure	
Chr cholecystitis	64.3%	28.5%	7.1%	42
Mild chr cholecystitis	68.6%	23.5%	7.8%	51
Min chr cholecystitis	50%	37.5%	12.5%	8
Normal gallbladder	50%	50%	-	2
No gallbladder	100%	-	-	1
Cholelithiasis	100%	-	-	2

$p > 0.5$



# RESULTS

## ■ Presenting symptoms and Outcomes

Symptoms	Post cholecystectomy outcomes			(n)
	Resolved	Improved	Failure	
Nonspecific abdominal pain	70.4%	22.2%	7.4%	27
Biliary colic	61.7%	29.6%	8.6%	81



# RESULTS

- Complications: 3/184
  - Wound infection = 1
  - Postoperative ileus = 1
  - Incisional hernia = 1



# CONCLUSION

- Laparoscopic cholecystectomy is safe, efficacious and durable in children suffering from biliary dyskinesia.