

ORIGINAL RESEARCH

Cosmetic Results Following Conventional Laparoscopic Cholecystectomy: Experience of a Tertiary Care Center

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ABSTRACT

Background & Objectives: The conventional four port laparoscopic cholecystectomy is the gold standard treatment for symptomatic gall stone diseases at present. There is a trend towards minimal port placement in laparoscopic cholecystectomy. Still there is dearth of data relating to cosmetic outcomes following conventional laparoscopic cholecystectomy. Aim and objectives: Our study is prospective observational study to know the cosmetic outcomes in terms of scar appearance, scar thickness, scar irregularity, incision site discharge and incisional hernia following conventional laparoscopic cholecystectomy after 1 month of follow up. **Methods:** A prospective study of cosmetic outcomes of 80 patients aged between 35 years to 65 years from 2016 to 2018 was taken into consideration. All the surgeries were done by a single experienced surgeon in AIIMS Patna. The patients were followed up 1 month after the surgery. All the patients of previous scar, lap converted open cholecystectomy, suspected common bile duct stones, history of obstructive jaundice and acute cholecystitis were excluded from our study. **Result:** Out of 80 patients (60 females and 20 males) studied, the overall cosmetic outcomes following conventional laparoscopic cholecystectomy was satisfactory and cost effective. **Conclusion:** Overall cosmetic outcomes following conventional laparoscopic cholecystectomy is fine and has been confirmed by many studies in past. Published data showing benefit of SILC over SLC is sparse and there is lack of randomized control trial. There is need of more randomized control trial. to show SILC is cosmetically better while being cost effective than SLC. SLC provides better cosmesis while being cost effective.

Key words: laparoscopic cholecystectomy, cosmesis, scar, surgery.

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INTRODUCTION

Gall stone disease is one of the most common condition encountered in general surgical practices in adult population¹. Now the laparoscopic cholecystectomy is the gold standard treatment for symptomatic gallstones². Laparoscopic cholecystectomy is conventionally performed using four ports into the abdomen³. The fourth port is used to retract the liver for better exposure of Calot's triangle (French technique) or to grasp the fundus of gall bladder, pulling upward and outward to expose Calot's triangle (American technique)⁴.

Its advantages include decreased hospital stay postoperatively, earlier return to work, decreased postoperative pain⁵, minimal surgical incisions and better cosmetic results. Overall it leads to lesser postoperative complications.

Surgical standards of practice continue to evolve towards less invasive approaches with use of minimal number of ports. Still there is dearth of data relating to cosmetic outcomes following conventional laparoscopic cholecystectomy.

This study was done to evaluate the different aspects of cosmetic outcomes after 1 month of conventional laparoscopic cholecystectomy.

Aim and Objectives

Our study was a prospective observational study to know the cosmetic outcomes in terms of scar appearance, scar irregularity, incision site discharge and incisional hernia following conventional laparoscopic cholecystectomy after 1 month of follow up.

MATERIALS AND METHODS

A prospective study of cosmetic outcomes of 80 patients aged between 35 years to 65 years from 2016 to 2018 was taken into consideration. All the surgeries were done by a single experienced surgeon in AIIMS Patna. The patients were followed up 1 month after the surgery. All the patients of previous scar, lap converted open cholecystectomy, suspected common bile duct stones, history of obstructive jaundice and acute cholecystitis were excluded from our study.

Operative Technique: A standard four port technique was used utilizing 10 mm incisions at supraumbilical and epigastric region, with two lateral 5 mm ports one 2.5 cm below right subcostal margin in midclavicular line and another in anterior axillary line at the level of umbilicus. The gallbladder was retrieved from the epigastric port site using standard aseptic conditions. 10 mm ports were closed with no1 port closure vicryl for anterior rectus sheath and 3-0 ethilon for skin. 5 mm ports were closed with 3-0 ethilon for skin.

RESULT

A total of 80 patients underwent conventional laparoscopic cholecystectomy during 2016-18. Out of these 60 (75%) were females and 20 (25%) were males. The mean age of presentation was 42.5 years. The indication of surgery in all cases was symptomatic gall

stone disease with preoperative sonographically proven cholelithiasis. All surgeries were done under general anaesthesia. Mean operative time was 40.11+-5.14 minutes. All patients were discharged between 1st and 3rd post operative days and followed up after 1 month of surgery for cosmetic outcomes. In present study during follow up scar appearance of all port sites based on single observer's view found that it was excellent in 70 out of 80 cases (87.50%), good in 7 (8.75%) average in 2 (2.50%), poor in 1 (1.25%) and very poor in 0 cases. The scar thickness of epigastric port was flat in 64 cases (80.0%), <2mm in 12 cases (15.0%), 2-5 mm in 3 cases (3.75%) and more than 5mm in 1 case (1.25%). While for supraumbilical port it was flat in 60 cases (75.0%), <2mm in 18 cases (22.50%), 2-5mm in 2 cases (2.50%) and more than 5mm in 0 cases. It was based on high resolution ultrasonography. Scar irregularity based on single observer's view found that it was minimal in 68 cases (85%), mild in 11 cases (13.75%), moderate in 1 case (1.25%) and severe in 0 cases. Incisional site specifically supraumbilical port site discharge was present in 1 case (1.25%) though it was minimal at the time of follow up. There was no case of incisional hernia noted at the time of follow up.

Table 1: Sex distribution of cases of cholelithiasis (n=80)

Sex	Total no.	Percentage
MALE	20	25
FEMALE	60	75
TOTAL	80	100

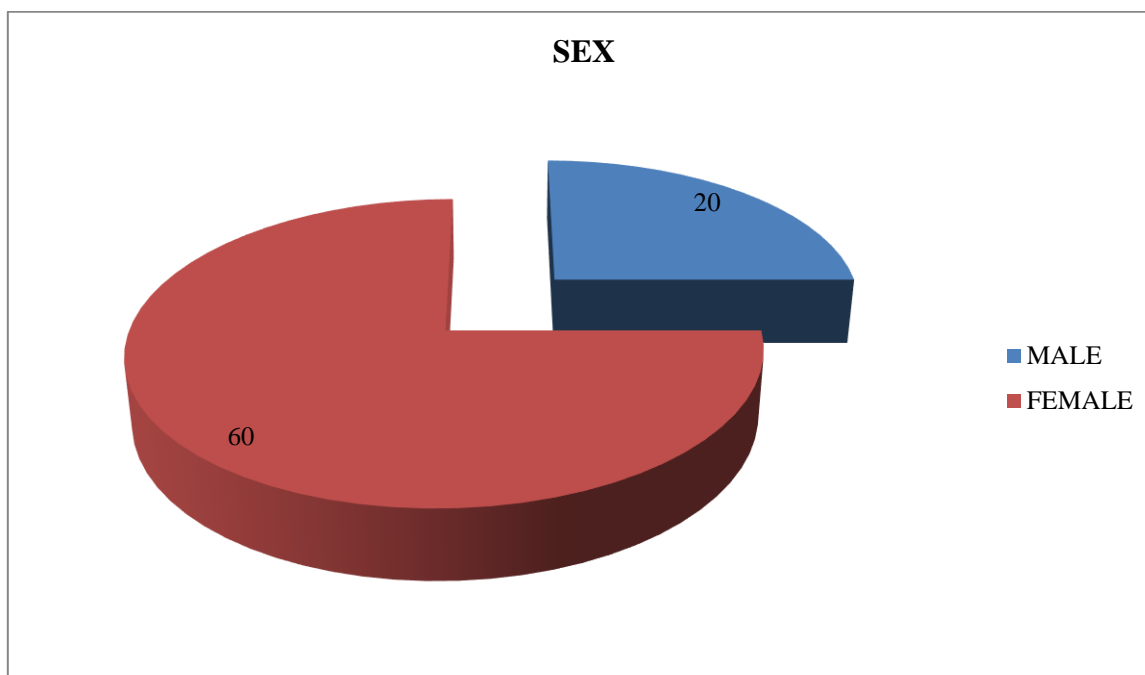


Table 2. Visual appearance of scar (n=80)

Scar appearance	Total no.	Percentage
Excellent	70	87.50
Good	7	8.75
Average	2	2.50
Poor	1	1.25
Very poor	0	0

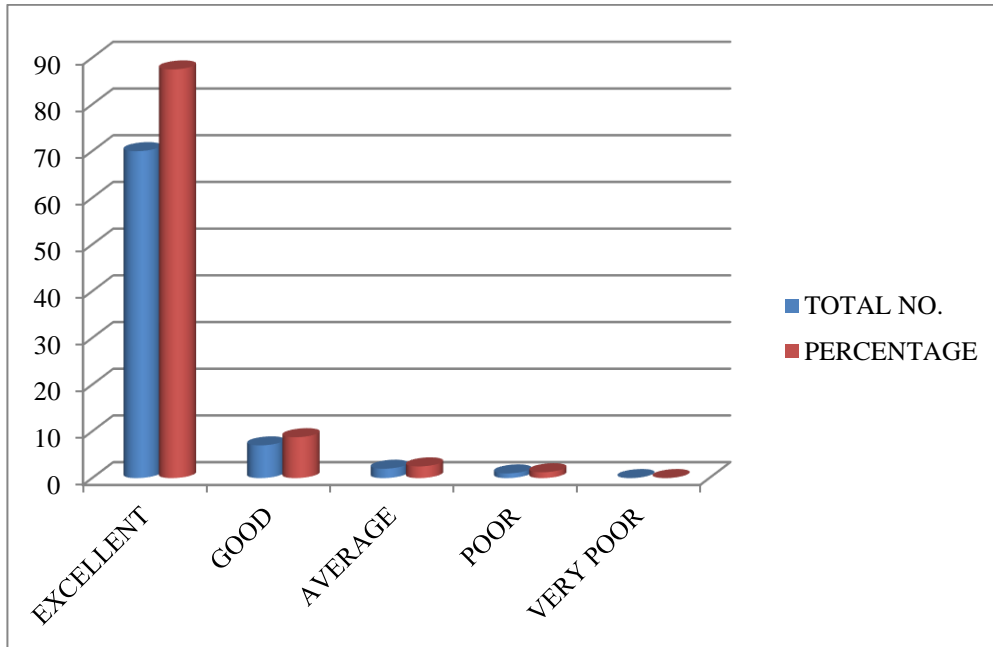


Table3. Scar thickness evaluated by ultrasonography (at epigastric port)

Scar thickness	Total no.	Percentage
FLAT	64	80.0
<2mm	12	15.0
2mm-5mm	3	3.75
>5mm	1	1.25

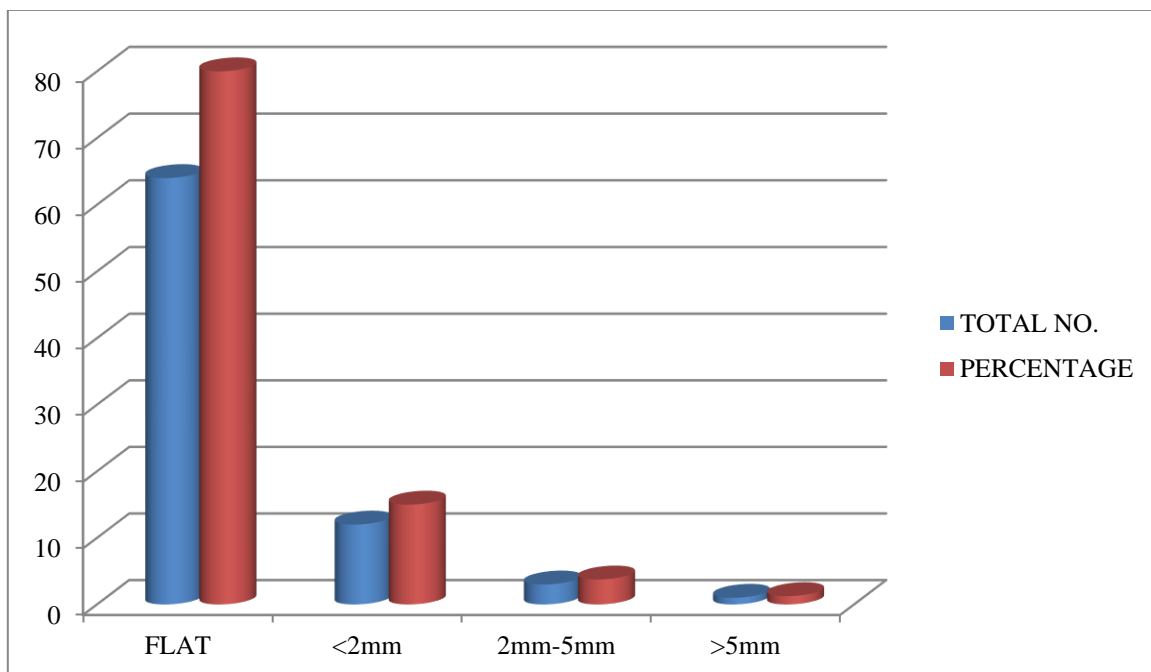


Table4. Scar thickness evaluated by ultrasonography (at supraumbilical port)

Scar thickness	Total no.	Percentage
FLAT	60	75.0
<2mm	18	17.50
2mm-5mm	2	2.50
>5 mm	0	0

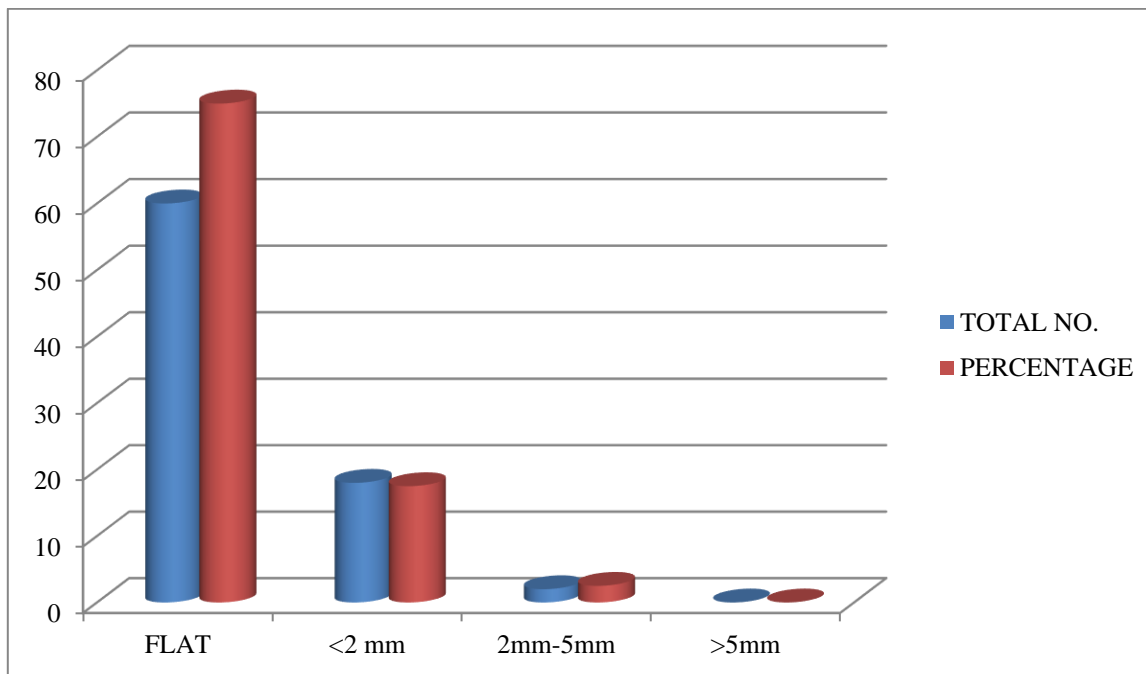


Table5.Scar irregularities

Scar irregularities	Total no.	Percentage
MINIMAL	68	85.0
MILD	11	13.75
MODERATE	1	1.25
SEVERE	0	0

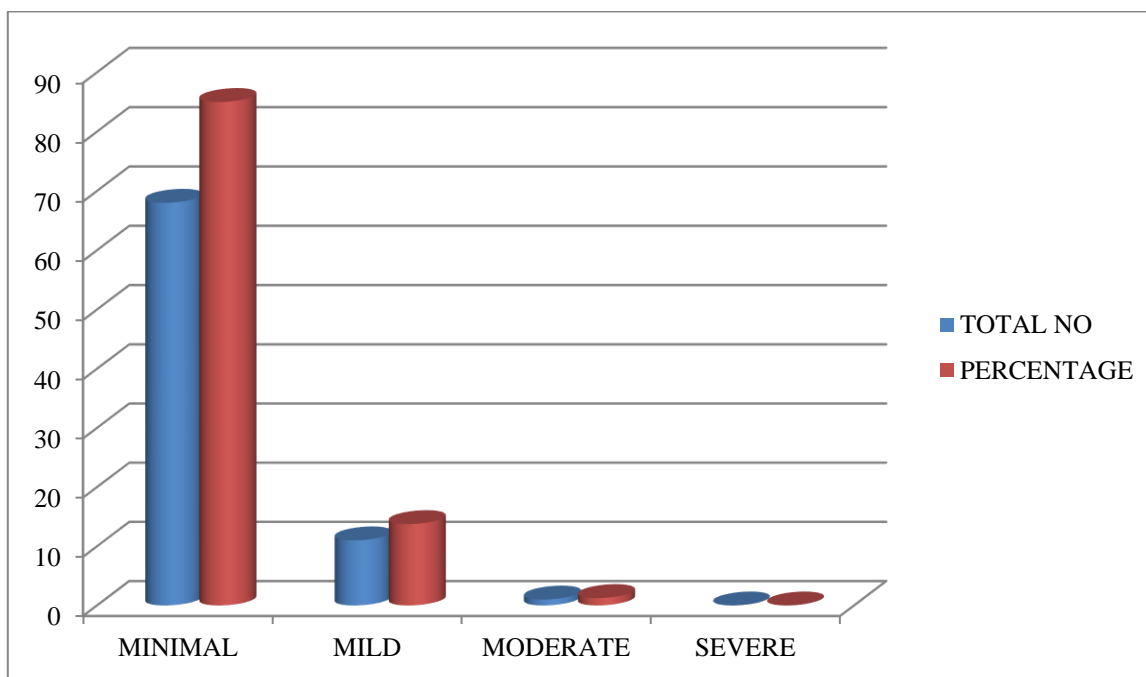


Table 6. Presence of discharge at incision site

DISCHARGE	TOTAL NO	PERCENTAGE
PRESENT	1	1.25
ABSENT	79	98.75

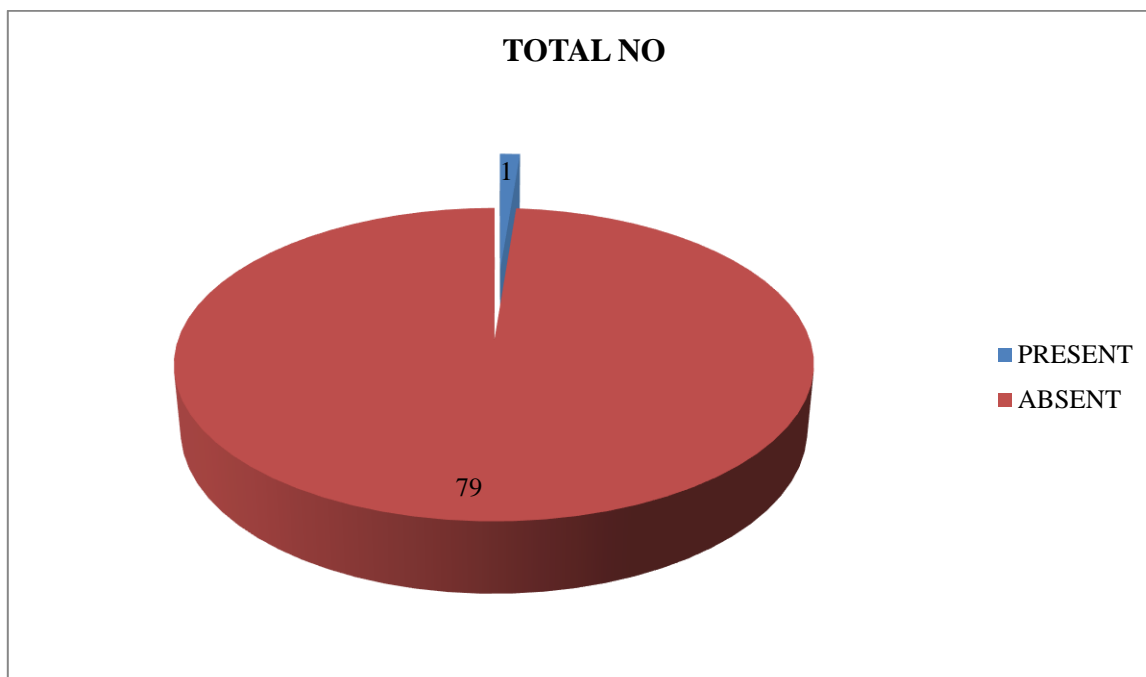
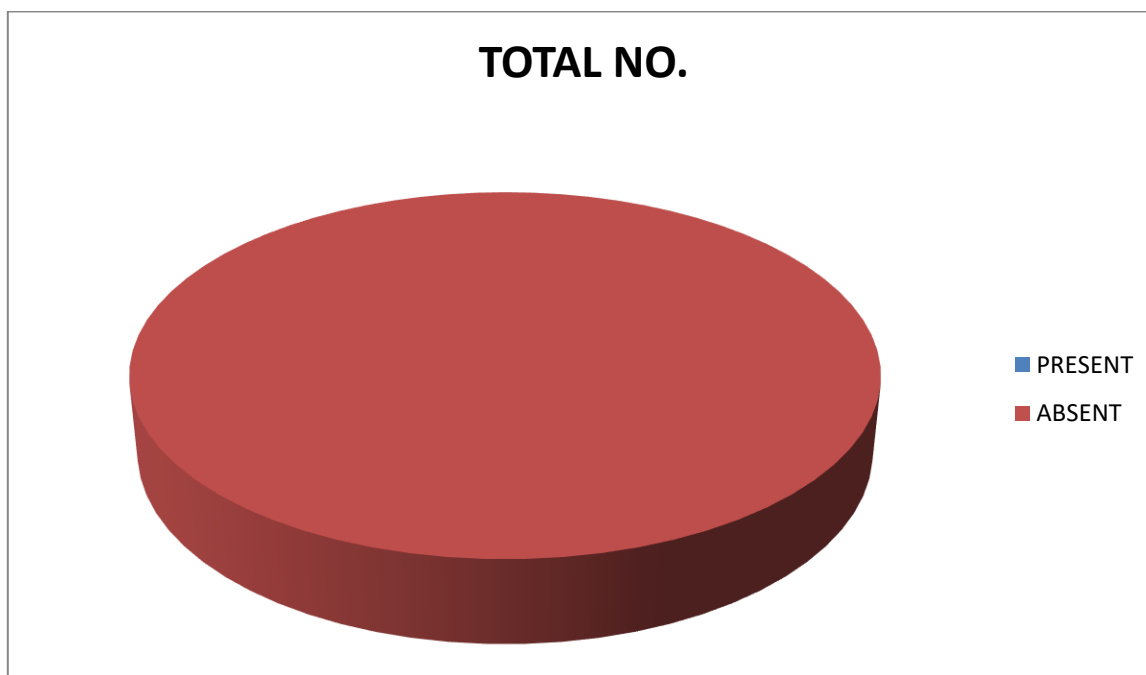


Table7. Presence of incisional hernia 1 month after surgery

Incisional hernia	Total no.	Percentage
PRESENT	0	0
ABSENT	60	100



DISCUSSION

Bearing in mind the technical aspects of SILC (single incision laparoscopic cholecystectomy) are not standardized, there is statistically significant data to

suggest that the cost of SILC is higher than SLC (standard laparoscopic cholecystectomy) with equivalent quality of life scores, pain, analog scores, and pain medication use⁶. In present study

supraumbilical port site discharge was present in 1 case. Monkhouse et al performed a retrospective wound review of patient who had undergone the SLC; 48% of patients had experienced a wound related issue (pain, infection) with 65% of these at the umbilicus. This variability with our study may be due to follow up of patient after 1 month. Overall cosmesis was worse for epigastric port while closely followed by supraumbilical port. Similar results were also found in M Patel et al study. Bignell et al assessed cosmetic outcomes in female 4 years after SLC and concluded that patients perceive cosmetic results after the procedure as excellent, with further anecdotal evidence suggesting the umbilical port as the site of problems for some patients⁷.

CONCLUSION

Overall cosmetic outcomes following conventional laparoscopic cholecystectomy is fine and has been confirmed by many studies in past. Published data showing benefit of SILC over SLC is sparse and there is lack of randomized control trial. There is more need of more randomized control trial to show SILC is cosmetically better while being cost effective than SLC. SLC provides better cosmesis while being cost effective.

Conflict of interest: None to declare.

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REFERENCES

1. Abbasai SA, Azami R, Haleem A, Tariq GR, Iqbal A, Almas D, et al. An audit of laparoscopic cholecystectomies performed at PNS Shifa Pak Armed Forces Med J 2003; 53:518.
2. Mehraj, Adnan, et al. Laparoscopic cholecystectomy: An audit of 500 patients. Journal of Ayub Medical College Abbottabad. 23.4(2011):88-90
3. Jamagin WR, editor. Blumgart's surgery of the liver, biliary tract and pancreas. 5th edition. Philadelphia: Elsevier Saunders; 2012.
4. Slim K, Pezet D, Stencl J Jr, Lechner C, LeRoux S, Lointier P, et al. Laparoscopic cholecystectomy: An original three trocar technique. World J Surg 1995; 19:394-7.
5. Williams, Lester F, et al. Comparison of laparoscopic cholecystectomy with open cholecystectomy in a single centre. American Journal of Surgery 165.4 (1993): 459-465.
6. Leung D, Yetasook AK, Carbray J, Butt Z, Hoeger Y, Denham W, Barrera E, Ujiki MB. Single incision surgery has higher cost with equivalent pain and quality of life scores compared with multiple incision laparoscopic cholecystectomy: a prospective randomized blinded comparison. J Am Coll Surg 2012 Nov; 215 (5): 702-708.
7. Bignell M, Hindmarsh A, Nageswaran H, Mothe B, Jenkinson A, Mahon D, Rhodes M. Assessment of cosmetic outcome after laparoscopic cholecystectomy among women 4 years after laparoscopic cholecystectomy: is there a problem? Surg Endosc 2011 Aug; 25 (8): 2574-2577.