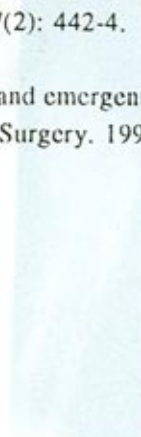


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Discussions

Laparoscopy under local anaesthesia²⁷ is not new and has long been used for sterilization²⁴. Local anaesthesia combined with conscious sedation has increased the tolerance of the patients to the pneumoperitoneum and intraperitoneal dissection. In 1992 intraligamentary transfer of zygote was performed laparoscopically under local anaesthesia²⁷.

(Once the advantage and safety of local anaesthesia was established this technique was used in high risk patients and in 1992 Snabes M.C.² performed tubal ligation in 5 women who had severe cyanotic heart disease.

We in our study also used this technique in 5 moribund patients who were declared as very high general anaesthetic risk. (One patient had a free perforation of duodenal ulcer, as proven by gastrogaffin meal while convalescing from myocardial infarction. He tolerated the procedure of closure of perforation and peritoneal lavage very well without any further complication. Three patients had advanced carcinoma of stomach causing gastric outlet obstruction. They were cachectic & bed ridden. (One of them had right bundle branch block. (One patient had an end stage disease with malignant ascites and extensive metastases. In all three patients, curative surgery was not possible. The gastrojejunostomy was done in two cases and for the third patient, the feeding jejunostomy was performed. The gastrojejunostomy patients did extremely well. They gained weight and became mobile prior to discharge. The third patient with a feeding jejunostomy succumbed to his illness, forty eight hours after surgery. The last patient of high risk group was a lady with metastatic ovarian adenocarcinoma. Laproscopic biopsy was done and referred to oncologist for further management.

Effective and emergent laparoscopy had been every effectively used by G. Bercl²⁸. He attempted both general and local anaesthesia for evaluation of abdominal tumor patients in which he has shown the importance of laparoscopy, whereby a laparotomy had been avoided and in other

circumstances positive laparoscopy has confirmed the need for abdominal exploration.

In our study two emergency laparoscopies under local anaesthesia were carried out whereby an acute appendicitis and a perforated duodenal ulcer were dealt with.

Effective laparoscopy has helped us in establishing the diagnosis as shown in Table-II. (On the other hand six negative laparoscopies evicted diagnostic exploration of abdomen.

Laparoscopy under local anaesthesia adds to the surgeon's armamentarium for diagnostic & therapeutic emergency situations. The safety of local anaesthesia hopefully will benefit many high risk patients.

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out with out any further problem.

The common indications of diagnostic laparoscopy are shown in Table I, Table II shows the diagnosis of 25 patients. 6 patients, had a negative laparoscopy as no pathology was found. In 2 of these patients intrabdominal malignancy was strongly suspected, and therefore exploratory laparotomy was avoided.

There were 5 patients who were labelled as high risk (ASA-4/5) as shown in Table III three of these patients at advanced gastric carcinoma causing outlet obstruction. Gastrojejunostomy was performed in two, while the third had a feeding jejunostomy. The patients with gastrojejunostomies had an uneventful recovery & were on oral feed forty eight hours after surgery. They were discharged home on 6th postoperative day. The patient with feeding jejunostomy died forty eight hours after surgery. His death was attributed to his disease rather than laparoscopy, as he had an end stage gastric carcinoma with multiple liver and peritoneal seedling and no worthwhile palliation was possible except for feeding jejunostomy. One patient had a myocardial infarction 8 days prior to the perforation of duodenal ulcer. His perforation was closed & peritoneal lavage done laparoscopically. He recovered uneventfully. The fifth patient had an advance ovarian adenocarcinoma. Her biopsy was taken laparoscopically and referred to the oncologist for further management.

Table #1
Indications for Diagnostic Laparoscopy Under Local Anaesthesia.

- Liver disease.
- Suspected liver tumor.
- Suspected metastasis.
- Palpable abdominal mass.
- Tumor staging.
- Chronic pain of unknown origin.
- Abdominal diagnostic dilemma.
- Ascites of unknown origin.

Table # 2
Laparoscopy under Local Anaesthesia —
Diagnosis & Procedures.

Diagnosis	Procedure	No.
Carcinoma of Stomach	Gastrojejunostomy	2
	Feeding Jejunostomy	1
Perforated duodenal ulcer	Closure, peritoneal lavage & drainage.	1
Acute appendicitis	Appendicectomy	1
Cyst of seminal vesicle	Excision of pelvic cyst.	1
Lymphoma	Lymph node biopsy	1
Varicocele	High Ligation	1
Cirrhosis	Liver Biopsy	2
Cacinoma of gall bladder	Biopsies	2
Hepatoma	Biopsy	1
Carcinoma esophagus	Tumor staging	1
Ovarian carcinoma	Tumor staging & omental biopsy	1
Abdominal Tuberculosis	Biopsies	4
No obvious pathology	_____	6
TOTAL	_____	25

Table # 3
High Risk Group (5 Patients)

S. No.	Diagnosis	Associated Pathology	Procedure	ASA Classi- fication	Recovery
1.	Carcinoma of stomach with metastasis.	Right bundle branch block Cachaxia due to hypoproteinaemia and bed ridden.	Gastrojejunostomy	4	Uneventful
2.	Carcinoma of stomach with metastasis.	Unstable angina and diabetic.	Gastrojejunostomy	4	Uneventful
3.	Carcinoma of stomach with metastasis.	Carcinomatoses, end stage disease malignant ascites, heart failure and hypoproteinaemic edema.	Feeding Jejunostomy	5	Died after 48 hrs. of surgery.
4.	Perforated duodenal ulcer.	Myocardial infarction 8 days	Simple closure, lavage & drainage.	4	Uneventful
5.	Abdominal Ovarian carcinoma.	Morbund	Biopsy	4	Uneventful

LAPAROSCOPIC SURGERY UNDER LOCAL ANAESTHESIA

* SHAFIQ-UR-REHMAN, M. SAJJAD ASHRAF, SAEED AHMED QAIMKHANI, AZHAR HUSSAIN.

Abstract

A total of 25 patients were subjected to diagnostic and therapeutic laparoscopy under local anaesthesia and intravenous analgesia to assess the safety and feasibility of laparoscopic surgery under local anaesthesia. 5 patients were labelled as high risk. There were six negative laparoscopies, since no pathology could be found. 2 Gastrojejunostomies, 1 appendicectomy, 2 Lymphadenectomies, 1 excision of pelvic cyst and 1 closure of duodenal perforation were done along with other diagnostic procedures.

All patients tolerated the procedure remarkably well. One patient died 48 hours after surgery. The cause of death was related to his disease (Carcinomatosis) rather than to surgery. There were no complications directly related to surgery under local anaesthesia and the desired results were obtained.

Key Words: Laparoscopy, Surgery
Laparoscopic, Local Anaesthesia.

Introduction

Laparoscopic surgery is commonly practiced under general anaesthesia. However it is possible to perform certain procedures under local anaesthesia plus intravenous analgesia^{1,2}. Laparoscopic tubal ligation has been practiced since 1971 in USA^{3,4}. We have used local anaesthesia to perform both diagnostic and therapeutic laparoscopy like tumor staging, biopsies & gastrojejunostomies etc. We have also used this technique for both elective and emergency situation. Patients who are high anaesthetic risk are also amenable to laparoscopic

surgery⁵, we have performed laparoscopic surgery in at least five high anaesthetic risk patients with pleasing results.

Patients and Method:

Intravenous line was maintained using a 16-18 F cannula. Pentazocine 10mg and diazepam were administered slowly till the patients were somnolent but responsive. Oxygen was administered through a mask. 4 L/min. Patients were asked to pass urine if they were not catheterized. All patients were monitored during the procedure and anaesthetist was on standby.

Local anaesthesia in the form of lignocaine 0.5% (w/v) upto a maximum of 50 ml was injected at the site of primary and secondary ports, further lignocaine was injected at the site of dissection whenever necessary. Pneumoperitoneum was induced through a Veress needle. Insufflation of CO₂ was done slowly (Max. 1.5/lmin). to a pressure of 10mm of Hg.

The primary cannula is then inserted with drilling action, through which a prewarmed telescope attached to a camera was inserted. All the secondary ports are inserted under direct vision. Exploratory laparoscopy followed by the desired laparoscopic procedure was carried out.

Results:

All patients tolerated the procedure remarkably well. Pneumoperitoneum was well tolerated upto 12 mm Hg. Above this pressure patients complained of pain & became restless. One patient developed cardiac arrhythmias which reverted to normal after desufflation of the pneumoperitoneum & slow reinsufflation, allowing the procedure to be carried

Address all Communications to:

* Surgical Unit IV, Dow Medical College & Civil Hospital, Karachi.