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CASE STUDY

LAPAROSCOPY- RELIABLE DIAGNOSTIC & THERAUPEUTIC TOOL IN MANAGEMENT OF PAIN ABDOMEN OF UNKNOWN ETIOLOGY

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ABSTRACT

Chronic pelvic & abdominal pain is persistent pain of greater than 6 months duration, debilitating ones daily activities. Patients with chronic abdominal Pain of unknown etiology are often subjected to a variety of procedures in an attempt to find a cause, simple investigations may give way to more complex and invasive ones in the pursuit to confirm diagnosis. We report a case of a patient aged 41yrs, with surgical history of LSCS twice with complaints of pain abdomen & pelvis presented to emergency department at night. Her history revealed on & off pain abdomen & pelvis for 2 years which was aggravated since 2months. A multidisciplinary team approach was given to her, she was attending pain management clinic & gastrosurgical unit, took multitude of tests along with upper & lower GI endoscopy of which nothing is conclusive & was interpreted as normal, simultaneously treated for UTI but with no permanent cure of her symptoms. Before taking up for laparoscopy we repeated surgical profile as well as USG abdomen & pelvis which was suggestive of normal study & CT scan was normal. Definite diagnosis preoperatively was not made hence we took her up after pain mapping & marking the site. Intraoperatively single large adhesion of omentum stuck from bowel to midline scar present which was the site she was referring to, multiple adhesions between the bowel & omentum stuck to left pelvic wall & adhesions in the right upper quadrant of the abdomen present, adhesiolysis done & anatomy was restored. Patient was pain free postoperatively & was completely asymptomatic in the follow up visits after 2 months. Purpose of presenting the paper is to stress the importance of laparoscopic approach for managing cases of chronic abdominal & pelvic pain of unknown etiology and to prepare an open broad minded multidisciplinary view of such cases at the same time reviewing available literature on it.

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INTRODUCTION

Chronic pelvic & abdominal pain is persistent pain of greater than 6 months duration, debilitating ones daily activities. It may or may not be associated with menstrual periods, Pain may arise from any system, including the genitourinary, gastrointestinal, and gynaecological tracts. Adhesions are found as the cause of chronic pelvic/abdominal pain in about 25% to 40%. As described by Howard, 1993 of the percentage of patients with CPP and adhesions alone is about 25%, with associated endometriosis accounting for another 28% in total 40%. (Howard, 1993) Adhesions can cause important morbidity including abdominal and pelvic pain, intestinal obstructions, and infertility. (Chen et al., 2012) Concerning gynaecological operations, ovarian surgery bears the greatest risk of adhesion

formation followed by fallopian tubes, vagina & uterus. (Hans-Rudolf Tinneberg et al., 2013) The incidence of adhesions in population who had previous surgeries is between 67% to 93%, found in the largest autopsy series of abdominal adhesions, which included 752 subjects, over 44% had adhesions, 67% in patients with prior surgery and 28% in patients without surgery. (Weibel and Majno, 1973) After multiple laparotomies, the incidence of adhesions may even be as high as 93%. (Yesildaglar and Koninckx, 2000) Briefly into pathophysiology, Scar tissue is an expected result of trauma, and this is no less true inside the abdominal cavity as on its surface. Abdominal and pelvic surgical procedures, which are a form of controlled trauma, commonly result in the development of adhesions. Although typically involving the peritoneal surface, adhesions may develop between any 2 surfaces during the healing process. Adhesions may develop between adjacent solid organs, the intestines, fallopian tubes, omentum or the abdominal wall. Disruption of the mesothelial surface of the

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peritoneum is followed by fibrin deposition and coagulation. A fibrinous matrix forms through the aggregation of fibrinogen, thrombin, and cellular debris. This gelatinous fibrin matrix serves as a framework by which adhesive connections may be made to any adjacent structure. When followed by ingrowth of fibroblasts and myofibroblasts, which may be regulated by mast cells, a permanent adhesion results. In the absence of adhesion formation, the mesothelial surface repairs itself in about 5 days to 7 days. (Molinas *et al.*, 2001) Advanced technology with high-definition imaging, smaller cameras, and better instrumentation have allowed for an increasing number of adhesiolysis to be performed laparoscopically with good outcomes.

Case report

Patient aged 41yrs P2L2 came with complaints of pain abdomen to emergency department at night. She was consulting Gastro surgery team for her complaints, also seen by orthopaedician for her complaints of sacral pain as well, for which she is relieved. She was referred to our department, on examination patient is of average built & personality her vitals are stable, per abdomen patient is having pain abdomen & pelvis not confined to a particular area both speculum & bimanual pelvic examination is normal. Her history revealed on & off pain abdomen & pelvis for 2 years which was aggravated since 2months. A multidisciplinary team approach was given to her, she was attending pain management clinic & gastrosurgical unit, took multitude of tests along with upper & lower GI endoscopy of which nothing is conclusive & was interpreted as normal, simultaneously treated for UTI but with no permanent cure of her symptoms. Before taking up for laparoscopy we repeated surgical profile as well as USG abdomen & pelvis which was suggestive of normal study & CT scan was normal. Definite diagnosis preoperatively was not made hence we took her up after pain mapping & marking the site. Intraoperatively single large adhesion of omentum stuck from bowel to midline scar present which was the site she was referring to, multiple adhesions between the bowel & omentum stuck to left pelvic wall & adhesions in the right upper quadrant of the abdomen present, adhesiolysis done & anatomy was restored. Patient was pain free postoperatively & was completely asymptomatic in the follow up visits after 2 months.

DISCUSSION

Chronic pelvic pain is vaguely understood and, consequently, poorly managed. This condition is best managed using a multidisciplinary approach. Management requires good integration and knowledge of all pelvic organ systems and other systems including musculoskeletal, neurologic, and psychiatric systems. At our institution, a team-based and multidisciplinary approach has been taken to assess chronic pelvic pain among patients. Unlike other specific surgical processes, these patients require the expertise of multiple specialties primarily surgeons and gynecologists to offer the best chance at surgical success. One may also seek the counsel of a pelvic pain specialist who may suggest other treatments including trigger point injections, neuroablative procedures where certain nerves from the 'source' of the pain are cut as well as drug treatments, physical therapy, exercise and dietary

changes. In extreme cases where bowel function is disturbed, comprehensive nutritional support is a necessity. Adhesion Scoring Group 1994 has come up with classification of adhesions, which can be reproducible worldwide & can be of extreme help to the patient if the patient had to be referred to higher centre in view of adhesions, they published their more comprehensive adhesion scoring system based on evaluation of 23 individual locations in the abdominal cavity for severity (0, none; 1, filmy, avascular; 2, dense and/or vascular; 3, cohesive) and extent of total area or length (0, none; 1-25%; 2, 26-50%; 3, >50%;4). (Adhesion Scoring Group, 1994) Adhesions are very much overlooked diagnosis but is one of the leading cause of hospital admissions, Ellis *et al.* (1991) showed in the Surgical and Clinical Adhesions Research (SCAR) study that 35% of patients, having had laparotomy were readmitted to hospital due to a problem possibly related to adhesions during a 10 year period. Out of those, 5.7% were directly related adhesions, 33.6% possibly related by & 55.7% of the reoperations potentially complicated by adhesions. Part of the problem seems to be that it is not easy to observe ADHESIONS non-invasively, for example with MRI or CT scans. Which can be overcome by Conscious pain mapping. This is a microlaparoscopic technique in which the patient is sedated but can respond to questions during surgery that allows the gynaecologist to better correlate operative findings with symptoms. It can help to distinguish abdominal wall pain from gynaecological pain and may facilitate identification of vague endometriotic lesions. In some cases, the patient may pinpoint painful areas in the pelvis that do not correlate with overt pathology. (Palter and Olive, 1996) The utility of conscious pain mapping, which can be done in an outpatient clinic, is still debatable but appears promising.

There are many studies supporting Laparoscopic adhesiolysis in considerable reduction of chronic pelvic pain, American surgeons such as Steege and Daniell have also reported improvement in pain after adhesiolysis (Steege and Stout, 1991; Daniell, 1989). In a Dutch study Peters *et al.* (1992), only patients with chronic pelvic pain and severe adhesions benefited from adhesiolysis (Peters *et al.*, 1992). Malik & colleagues followed 187 patients who underwent laparoscopic adhesiolysis & found the method to be "effective therapeutic measure" (Mlaik *et al.*, 2000). Nezhat FR conclude that laparoscopic enterolysis may offer significant long term relief of CPP in majority of patients (Nezhat *et al.*, 2000). Also recurrence of adhesions is decreased by lap adhesiolysis as pointed out by Diamond *et al.* in a series of 68 women undergoing laparoscopic surgery reported that laparoscopic adhesiolysis resulted in significant reduction in intraperitoneal adhesions by approximately 50% from a score of almost 11 to 5. (Diamond *et al.*, 1991) In a more recent study in 2011 by Gregory D *et al.* The database of patients with complex abdominal and pelvic pain syndrome (CAPPs) was reviewed to identify patients who underwent a laparoscopic lysis of adhesion without any organ removal and observe if they had a decrease in the amount of abdominal pain after this procedure. Thirty-one patients completed follow up at 3,6,9 & 12 months. At 6,9 and 12 months post surgery, there was statistically significant decrease in patients analog pain scores they concluded by saying Laparoscopic adhesiolysis can help decrease adhesion related pain. (Gregory *et al.*, 2011)

Conclusion

For adhesion related symptoms, patients are seeking help in different medical specialties. Therefore every medical professional should be aware of the extensive consequences of adhesion related complications. Every patient with chronic pelvic pain is different. Some present initially to a gynaecologist and may receive definitive laparoscopic and/or medical treatment. Unfortunately, a great number of women are not helped by their initial provider and they typically migrate from one physician to the next in search of pain relief. In these seemingly intractable cases, one specialist is not adequate to remedy a chronic pain syndrome and this is where a multidisciplinary effort is helpful. The patient can be seen jointly by gynaecologist, anaesthetist, psychiatrist, gastrosurgeon, orthopaedic and additional specialists who then combine their resources to manage the patient's chronic pain syndrome. The goal is always to cure pain so much as to allow the patient to function more normally and have a better quality of life. In our view Laparoscopic adhesiolysis for pelvic & abdominal pain of unknown etiology is reliable for diagnosing and treating hence affording much pain relief.

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