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Laproscopic Hysterectomy versus Abdominal Hysterectomy with Physiotherapy on Obesity - Evidence Based Study

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Abstract: ***Introduction: With an increased rate of musculoskeletal ailments needs to be treated with due physical means. Aims and Objectives: - The aims and objectives of this original study were to compare and analyse the impact of specific exercises on laparoscopic hysterectomy and abdominal hysterectomy on obesity and QOL. Materials and Methodology: Subject treated post laparoscopic hysterectomy and another post abdominal hysterectomy with same means of recovery. Results: The results of exercises in Chennai during the period from may 2017 – July 2017 with resisted exercises of thrice a week frequency. Exercises effects on waist circumference and quality of life using SF36 questionnaire were analyzed statistically with p< 0.01 Conclusion: Surgical modes have chosen influences on the outcome of physiotherapy especially among gynaecological subjects.***

Keywords: musculoskeletal aliments, laparoscopic hysterectomy, abdominal hysterectomy, obesity, QOL- quality of life.

Abbreviations: LAVH – laparoscopic assisted vaginal hysterectomy, TLH – total laparoscopic hysterectomy, **LSH –** laparoscopic supra cervical hysterectomy

1. Introduction

Hysterectomy, a surgical removal of the uterus, is commonly performed procedure in peri and post – menopausal women (Sreedhar et al 2016). It is the second most common surgical procedure in USA (Graves et a 1992) while in India hysterectomy rate is 6% as compared to western countries (10 – 20 %) (Singh et al 2008). though this surgical procedure is a re-life for women with uterine pathologies and dysfunctions , the accurate selection of patients and the route of hysterectomy , morbidity and mortality is low (Abdullah et al 2006)

The mean age at which hysterectomy was performed years between 40 – 49 years in all studies (chaturvedi et al 2014). Hysterectomy is usually performed by (a) abdominal (b) vaginal and (c) laparoscopic. Few of the common reason for hysterectomy are dysfunctional or abdominal uterine bleeding (DUB/ AUB) painful uterine fibrosis, uterine prolapsed, endometriosis and adenomyosis (sreedhar et al 2016)

Selection of the operative approach was based on many factors including the physical properties, topography of the uterus and pelvis, the indication for surgery, patient body habits and medical co morbidities and the presence or absence of adnexal pathology. Abdominal hysterectomy has ability to manipulate distorted pelvic anatomy or perform extensive adhesiolysis. it is associated with higher level of incision pain, greater risks of post operative febrile morbidity wound infection , longer hospital stay and a more protracted recovery time .(Bristow et al 1997)

The laparoscopic hysterectomy can be categorized into three main types including laparoscopic assisted vaginal hysterectomy (LAVH), laparoscopic supra- cervical hysterectomy (LSH), TLH is most preferred due to advanced equipments , techniques and advantages for the patients quick post operative time to recover (wang et al 2016)

In direct comparison of abdominal and laparoscopic techniques, laparoscopic surgery has longer operation time and substantially high rate of major complications while offering much quicker healing (sarlos et al 2011)

Economic implications vary with the expertise of surgeon, laparoscopic was cost effective , the length of hospital stay and return to work were shorter in LAVH .In surgically created menopause patients, many physiological and metabolic conditions are altered due to decreased oestrogen (rock et al 2003) . the hysterectomy patients are at the greater risk of developing osteoporosis and altered physiological functions of CVS and CNS due to hypo magnesium and hypo calcium (Sreekantha et al 2011)

Although the surgical outcomes are successful, weight gain is a frequent complaint, (Carlson et al 2007), whereas this weight gain is not attributed to changes in diet or exercise habits. (Patricia G Moorman etal 2009).

Health status and quality of life outcomes measured prospectively and concurrently, complement mortality and morbidity measure. By comparing with pre and post hysterectomy quality of life is reduced after hysterectomy

and has to be improved by decreasing complication and QOL (Praveen Joseph et al 2017)

2. Materials and Methodology

Two subjects post hysterectomy were studied in this study. One was treated with laparoscopic means while the other subject was treated with abdominal route. Impact of exercises on obesity among these two subjects were analysed in this original study carried between May 2017 to July 2017 with weekly thrice frequency of exercises using an air inflated physio ball where exercises to both upper and lower extremities were used in sitting , supine , side and prone lying postures . 15 exercises with gradual increase in repetition were carried at an intensity of 60- 70 % MHR – pre and post WC and QOL using SF36 questionnaire were recorded, analyzed statistically.

Both the subjects had uterine dysfunction as indications for hysterectomy , while laparoscopic the subjects was 43 years with BMI of 28 kg/m^2 and abdominal hysterectomy subject was 46 years with BMI of 26 kg/ m^2

Table 1: Table of results of pre and post waist circumference and Quality of life among laparoscopic hysterectomy and post abdominal hysterectomy using student t – test

Parameters	Pre/Post	SD	SE	t- test	p
Laproscopic WC IN (cm)	PRE POST	98 92	3.46	3.00	<0.01
QOL	PRE POST	48 21	9	3.03	<0.01
Abdominal Hysterectomy WC IN (cm)	PRE POST	100 98	1.66	3.01	<0.01
QOL	PRE POST	50 26	8	3.06	<0.01

- QOL quality of life – 36 item short form survey (SF – 36) is a patient reported survey of , patient health on a 8 item subjective rating related to quality of life
- WC weight circumference at xiphoid process in centimetres.

3. Discussion

- POST hysterectomy weight gain mean BMI of women undergoing hysterectomy was high as high as obesity being a risk factor for uterine fibroids (Wise et al 2005) and both these study subjects had pre surgery with high BMI of 28kg/ m2 and 26 kg / m2 respectively .
- Weight gain of more than 10 pounds in one year follow up post hysterectomy was recorded (Mooreman et al 2009) among 238 subjects post hysterectomy and this weight gain was one adverse outcome of hysterectomy (Carlson et al 2007)
- Weight gain with abdominal hysterectomy is higher than laparoscopic hysterectomy as with longer recovery period (Johnson et al 2006) also longer periods of activity limitations (Mooreman et al 2009). Although other factors influencing weight gain such as baseline weight, race, marital status, smoking, educational level, tubal ligation, multiple pregnancies (Schwartz et al 2000).
- With reduction in obesity post hysterectomy not only the quality of life has improved as supported by (Coakley et al 1998) a reduced risk for overall mortality , cardiovascular disease , diabetes , osteoarthritis , depression , cancer etc . These findings support benefits obtained by both study subjects apart from lowering of obesity and an improved QOL as shown in the above table (Dennis et al 2007)

4. Critical Appraisal of this Study

1) The study has only analysed obesity and quality of life of both subjects post hysterectomy.
2) This study was conducted for 3 months hence, longer duration follow up are recommended with larger sample size for further validity.
3) Comparison with other physical therapy modalities can be included in future studies as can be included of this study.
4) Findings of this research study could be extended on similar post gynaecological surgery subjects along with post natal and kegel exercises.

5. Conclusion

Though the modes of surgery were to be under the discretion of gynaecologist post hysterectomy outcome with obesity complications pattern recovery and type of exercises used, physiotherapist should be familiar and acquainted was the major core of this original research presentation.

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