DECIDING THE ROUTE FOR HYSTERECTOMY
A SCORING SYSTEM FOR BETTER FEASIBILITY OF NDVH - INDIAN TRIAGE SYSTEM

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GOVT WOMEN AND CHILDREN HOSPITAL,

MADRAS MEDICAL COLLEGE AND

RESEARCH INSTITUTE.

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BONAFIDE CERTIFICATE

This is to certify that this dissertation entitled "**DECIDING THE ROUTE FOR HYSTERECTOMY A SCORING SYSTEM FOR BETTER FEASIBILITY OF NDVH - INDIAN TRIAGE SYSTEM"** is the bonafide work done by **Dr. C. Kokila**, post graduate in the Department of Obstetrics and Gynaecology, Institute of Obstetrics and Gynaecology, Government Women and Children Hospital, Madras Medical College, Chennai, towards partial fulfillment of the requirements of The Tamil Nadu Dr.M.G.R University for the award of M.S Degree in Obstetrics and Gynaecology.

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This is submitted to The Tamil Nadu Dr.MGR medical University, Chennai in partial fulfillment of the rules and regulations for the award of M.S Degree (Obstetrics and Gynaecology) held in April 2017.

Place:

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Introduction

INTRODUCTION

Hysterectomy is a most common surgery performed for gynecological disorder next to caesarian section. Hysterectomy rates vary from 1.2 – 4.8/1000 women.

The methods of hysterectomy are

- VH - Vaginal Hysterectomy
- AH - Abdominal Hysterectomy
- LAVH- Laproscopic Assisted Vaginal Hysterectomy vaginal route being the natural one, continues to be next preferred route for removal of uterus.

Vaginal Hysterectomy is associated with

- Less morbidities
- Lesser hospital stay
- Better patient satisfaction

Therefore this method is not restricted to uterovaginal prolapse but can be done for other indications

- Large uterine size
- Nulliparity
- Previous pelvic surgery
- LSCS
- Endometriosis and
- Ovarian Mass

With the introduction of Laproscopic Assisted Vaginal Hysterectomy in 1990, studies says that Laproscopic Assisted Vaginal Hysterectomy was superior in comparison to Abdominal Hysterectomy / Vaginal Hysterectomy, but with similar complications to Abdominal Hysterectomy & Vaginal Hysterectomy.

However Laproscopic Assisted Vaginal Hysterectomy has certain disadvantages

- Higher cost
- Expensive instruments
- Longer learning curve
- Morbidities depending on surgeon experience

But post operative recovery is similar to Abdominal Hysterectomy.

Vaginal removal of uterus in the absence of uterine descent commonly named as NDVH is popular for most benign conditions as uterus can be safely removed intact per vaginum.

Because of limited available space, removal of large uterus has always posed a great challenge to vaginal surgeons.

Aims and Objectives

AIMS & OBJECTIVES

- The aim of the study was to review the limitations, major complications and conversion rates associated with NDVH and based on them to develop a scoring system for pre surgical assessment of women undergoing hysterectomy for benign gynecological conditions.

- The scoring system would enable to grade women as having low, intermediate or high risk for complications and conversion rates if subjected to Vaginal Hysterectomy and thereby predict the feasibility to perform a successful NDVH.

Materials and Methods

MATERIALS & METHODS

Methods:

The scoring system for assessment of successful NDVH based on Kovacs guidelines to determine the route of hysterectomy.

Materials and Methods:

This is a prospective study conducted in IOG Egmore from February 2016 to September 2016 a consicious effort was made to perform as many NDVH with or without salpingo-oophorectomy , in benign gynecological conditions. Normally considered contraindications to Vaginal Hysterectomy like

- Large uterine sizes,
- Nulliparity,
- Mild to moderate endometriosis,
- Previous pelvic surgery or caesarean section and
- Simple adnexal mass less than 6 centimetres were included in the study group.

Exclusion criteria:

- Uterine size greater than 18 weeks
- Complex adnexal masses
- Severe endometriosis
- Immobile uterus
- Suspected or diagnosed malignancies
- Women opting for abdominal route

A detailed risk analysis for each of these cases was done. Based on this and kovacs guidelines on determining the routes of hysterectomy, parameters were selected for a scoring system to predict the chances of a successful vaginal route of hysterectomy. The scoring system was applied for pre-operative assessment from February 2016 to predict the feasibility of successful NDVH.

The following parameters were considered for formulating the scoring system.

1. Accessibility of the uterus transvaginally

- Mobility
- Vaginal breadth at apex
- Uterine sizes less than 16 weeks.

2. Pathology not confined to the uterus:

- Adnexal mass
- Endometriosis

3. Pelvic adhesions:

- Puckering of the post vaginal wall at the cervicovaginal junction.
- Immobility of uterus
- Bladder adhesion due to repeated LSCS.

A score 1 to 6 was given based on minimum to maximum risk for conversion

The accessibility of uterus transvaginally was reflected by the mobility of uterus, laxity of vagina and uterines sizes. Uterus with restricted mobility, narrow vagina less than 2 finger width at the apex, and a very broad uterus more than 12 centimeters in USG, extending laterally to the pelvic wall, in which volume reducing techniques would be difficult was given a score of 6.

Pathology not confined to uterus was assessed by presence of endometriosis and need for removal of adnexa or adnexal masses, which can be associated with problems in placing the clamps over the infundibulopelvic ligaments. Endometriosis can be associated with distorted pelvic anatomy and adhesions. A score of 6 was allocated for moderate degree of endometriosis and need for removal of adnexal mass more than 6 centimeters in size.

Previous LSCS can lead pelvic and bladder adhesions, the latter can predispose to bladder tear and this risk increases with repeat sections. Previous two LSCS were given a score of 6.

Pelvic adhesions due to any cause, obliterating the cul-de-sac, may be occasionally recognized by puckering or dimpling of the posterior vaginal vault at cervicovaginal junction, in this patients opening the posterior peritoneum may be difficult and likely to have complications if subjected to NDVH. This was given a score of 6.

Parameters : Score of 1 to 6 for minimum to maximum risk for conversion

Mobility of Uterus	**Mobile – 1**			**Restricted - 6**
Narrow vagina	more than 2 finger - 1			Less than 2 finger - 6
Uterine size	Less than 12 weeks – 1	12-16w-2	16-18w-3	Broad uterus - 6
Endometriosis	No-1	Mild – 2		Moderate – 6
Removal of adnexa /mass	No-1	Yes -2	less than 6cm – 3	More than 6 cm – 6
Post LSCS	None – 1	1 PCS – 2		2 PCS – 2
Puckering of POD	Absent -1			Present – 6
Min score – 7	Safe score 7-11	Mod risk on conversion - 12-16	High risk more than 16	

Review of Literature

REVIEW OF LITERATURE

Based on evidence Vaginal Hysterectomy is preferable route in terms of safety and overall outcome when compared to Laproscopic Assisted Vaginal Hysterectomy & Abdominal Hysterectomy (American) Committee No. 2009. ACOG College of Obstetrics & Gynaecology, out of 3 routes, vaginal route is safety, least invasive, economical and cosmetic.

Cochrane review of 34 RCT's (Randomised controlled trials) including 4495 patient (2009). Every hysterectomy should be planned primarily by vaginal route unless contraindicated. Limited available space in vagina, removal of large uterus posed great challenge to vaginal surgeons.

1) DEBULKING

It means reducing the size and volume of uterus to facilitate its delivery. For great surgeons, uterine morcellation or debulking by various methods offer a simple and efficient way to complete the vaginal procedure without undue difficulty. Debulking procedure is used when there is;

- Uterine enlargement (>14 weeks)
- Adnexal fixation.
- Obliteration of pouch of douglas.
- Limited vaginal exposure.

The concept of debulking originated from removal of large submucous myoma, long before in preanesthetic era. But now it was credited to Amusat of France (1840), who credited performing vaginal morcellation of submucous myoma 440gm. 1st significant morcellation technique was made by pryor.

Hemisection was popularized by pryor, Lash of Chicago introduced intramyometrial coring.

Uterine Volume Assessment

When Uterus is 8-10 weeks size - it is more than 150-200 cm^3 in volume, it is found that volume is desirable than size.

Size is measured as gestational fundal height and can lead to unexpected difficulty during Vaginal Hysterectomy. So, volume is best measure of uterine size than fundal height.

Uterus less than 10 weeks size or volume less than 200 cm^3 rarely needs debulking.

When uterus more than 12-14 weeks size or 250-350cm^3 volume – requires debulking.

The Institute for health and clinical excellance guidelines says that only indication for Abdominal Hysterectomy is size >18 weeks size.

Pre Operative Assessment

- Detailed clinical history
- Physical Examination
- Abdomino Pelvic Examination
    - Uterine Size
    - Mobility in all directions
    - Laxity or rigidness of tissues
    - Uterine scar
    - Length of vaginal cervix
    - Absence of adnexal pathology is very essential

- Investigation
    - CBC, RFT, LFT / Basic Investigations
    - Serology
    - Blood Grouping & Typing
    - Pap Smear
    - Ultrasound

- Ultrasound is economical tool for these cases. Preferably transvaginal ultrasound is very important in cases requiring debulking.

Ultrasound gives information of

- Uterus length, width and volume
- Endometrial assessment especially in postmenopausal women
- Size, location and number of fibroid especially for large fibroids
- Differentiates fibroid from adenomyosis
- Look for adnexal pathology
- Differentiate ovarian mass and broad ligament myoma.

MRI referred for difficult cases only

Prerequisites for NDVH & Uterine debulking if required

- No contraindications for vaginal route except for size
- Detailed preoperative counseling with informed consent.
- Consent for switch over to laproscopic assistance or laparotomy if required.
- Favourable clinical and ultrasound finding
- Absence of endometrial pathology (malignancy)
- Both uterine arteries ligated before debulking.

Surgical technique of NDVH

The patient after anesthesia given placed in

- Lithotomy position
- Care is taken to avoid neuro vascular compression by strirrups / leg holders.
- Buttocks brought to edge of table which is in O horizontal position.

- Operating chair of surgeons should bring patient pelvis at the level of surgeons eyes.
- Good focusing light is needed.
- Strong and long instruments needed for retraction, traction, cutting and proper suturing and knotting.
- Surgeon should be cool, bold and experienced to pave way in some difficult cases.
- Examination under anesthesia to document.
    - Assess to CX
    - Apical vaginal structures and especially uterosacral ligaments.
- Grasp cervix firmly, in asses if there is no adequate descent, firmly massage the uterosacral ligaments to provide maximum descent prior to proceeding.
- Grasp posterior cul de sac. With downward traction on vaginal epithelium and upward traction on CX – incise posterior cul de sac and go for peritoneal entry.
- Complete circumscription of vaginal epithelium around the cervix.

- Dissect the vesico cervical space, and cut the vesico cervical ligament and bladder is pushed up.
- UV fold of peritoneum visualized and opened.
- Now both anterior and posterior part opened, Fundus deliver out through anteriorly.
- If uterus is larger, debulking techniques followed.
- Identify, clamp, cut and ligate uterosacral ligament. This pedicle is used for cuff closure.
- Identify, clamp, cut and transect cardinal and pubocervical ligament pedicle.
- Identify, clamp, transect and ligate uterine vasculature.
- Identify and enter the anterior cul de sac if not already accomplished.
- Delivery the fundus of uterus posteriorly, an alternative is to deliver the fundus of uterus anteriorly, posterior delivery is efficient method.
- Identify clamp, transect the adnexal pedicle (fallopian tube, round ligament, utero ovarian ligament) to remove the uterus.

- If removal of adnexa is desired – clamp, divide and ligate the infundibulopelvic ligament.
- Look for hemostasis of all pedicles.
- Irrigate the field.
- If appropriate – perform MC call culdoplasty – incorporating uterosacral ligaments into cuff to help to prevent future prolapse.
- To document bladder and urethral injury – perform cystourethroscopy.
- Vaginal cuff (vault) closure done.

Many prefer to do interrupted sutures rather than running closure – because of

  - Hematoma and
  - Abscess formation

- Vaginal packing is optimal.

DEBULKING PROCEDURES

- Uterine Bisection
- Lash procedure (Intra myometral coring)
- Wedge resection
- Myomectomy
- Core enucleation (Doyen's method)

1) Uterine Bisection

Traction is applied to cx at 3 and 9'O Clock position after uterine artery ligation and anterior and posterior peritoneum opened.

Cervix is divided anteriorly and posteriorly and the same incision is extended upto fundus under vision by passing through cavity and so anatomy is maintained. Not to go laterally this may result in increased risk of bleeding.

- Fibroids encountered in line of incision is either enucleated or divided along the uterine incision.
- In case of adenomyosis where the uterus is bulky – Apex of incision is held with allis forceps and pulled into view.
- Once the incision is completed, one half of uterus pushed inside, displacing the bowel and other half of uterus is clamped and divided by better exposure of adnexal pedicle.

2) Lash Procedure (Intramyometrial coring)

- Coring is beneficial when the uterus is enlarged smoothy and globular and when sub pubic arch is narrow.
- Intramyometrial coring is done at isthmic area where the body of uterus widens.
- By giving traction to cervix, myometrium below the serosa and parallel to cavity is circumferentially incised with a knife.
- Same process continued and fundus is delivered as an elongated sausage mass similar to peeling a banana.

3) Wedge resection

- Useful for enlarged uterus with adenomyosis.
- Classic wedge morcellation is done in the middle of uterus where bisection done as far as possible.
- With long handled scalpel, the uterine mass is grasped which are removed from midline.
- Debulking done more in central than lateral deviation towards one adnexa.
- Cervical amputation done for grossly hypertrophied cervix.

4) Myomectomy

Myomas are seen during debulking. Enucleation can be done for moderate size myomas. But for larger fibroids – morcellation before enucleation must be done.

Anterior and posterior coloptomy is difficult when there is large cervical fibroid infiltrate with vasoconstrictor agents and remove them first.

So, radiology imaging is important to predict the size and location myomas.

Submucous and midline myomas are removed first followed by lateral myomas and finally fundal myomas.

Accessible myomas are

- Post wall myomas
- Cervical myomas
- Fibroids in uterine body
- Fibroids near endometrium or serosa

Difficult to remove are

- Broad ligament myoma
- Large fundal myoma
- Fibroid increasing transverse diameter of body of uterus reducing uterine artery ligation.

5) Doyen method or core enucleation

Cyclindrical column of tissues from centre of large solid myomas are removed by using a coring tube used by Doyen.

Coring tube can also be used to dissect dense myometrium.

Coring tube is pressed firmly in centre and to depth of 2-3cm by rotation.

Tube is removed and myometrial tissue is grouped with clamp and excised with scissors.

Morcellation – morcellation is always needed for very large uterine myomas.

Technique has to be individualized depending on size.

Location and number of myomas.

Other techniques for removal of uterus vaginally.

- Episiotomy

  A midline episiotomy can be used in the lower third of vagina in case of narrow vagina and introitus.

- Cervical amputation

  Large solid myomas are trapped above the public symphysis.

  In such career – cervix removed and lateral morcellation can be done along the circumference of sharply angled isthmic serosa.

- Suprapubic fundal pressure

  In the patients, where mobile uterus is palpable abdominally.

  It is more effective.

- Vaso constriction

  - Vasopressin (10-20U in 100ml and 0.9% saline)
  - Lignocaine (0.5 – 1%) with adrenaline

  Is used as a vasoconstrictor.

Fun : To create hemostasis while performing

- Myomectomy
- Morcellation before ligating uterine artery

In case of severe hypertension with coronary artery disease and patient taking beta blockers – these agents are avoided.

- Tackling potential adhesion.

  Bowel & Bladder

  If adhesions present – sharper dissection with

  - Scissors is needed
  - Ligation is required for vascular adhesions.

- Medical debukling

Concept of medical debulking was first given by Stovall et al to facilitate Vaginal Hysterectomy easier and showed success rate of 70% for 14-18 weeks size.

Preoperative GnRH agonist (Leuprolide acetate) 3.75mg in 2-3 doses used.

After usage there is significant reduction in size of myoma in 12 weeks.

Major disadvantage is 1) Necrotic degeneration of myoma producing problems in identifying planes of dissection and making grip in myoma traction. 2) High cost.

International Journal of Reproductive contraception obstetrics and gynecology – 2015; 4(1) ; 61-65.

A total of 105 cases were selected for NDVH. All 105 patient successfully underwent, NDVH. Commonest age group was (41-45 years) i.e., 48.6%. All patients were parous. Uterine size was <8 weeks in 72 cases, > 8 weeks in 33 cases.

Common indication was AUB (45.7%). Mean duration of surgery was 90 min's. Mean Blood loss – 205ml. Most common complication was post operative pain in 21.9% cases.

Febrile morbidity was 9.5% Blood transfusion was required in 4 cases. Average duration of hospital stay was 4 days.

BJOG – An international journal of obstetrics and gynecology

3 methods for hysterectomy

A randomized prospective study of short term outcome.

A traditional Vaginal Hysterectomy proved to be feasible and faster operative technique compared with Vaginal Hysterectomy with laproscopic assistance.

Abdominal Hysterectomy – is required on average of long hospital stay of 1 day to 1 additional weck of convalescence. Compared with Abdominal Hysterectomy, Vaginal Hysterectomy should be primary method for uterine removal.

Vaginal Hysterectomy at JOS University teaching hospital, JOS, Nigeria.

Journal of West African college of surgeons 2011; 1(3) ; 26-36.

Hysterctomy can be performed through vaginal as an open procedure or preceded by laproscopy. Superiority of vaginal route is highlighted. When women who underwent Vaginal Hysterectomy experience significantly fewer complications when compared to others who had Abdominal Hysterectomy.

Hysterectomy at a Canadian tertiary care facility results of 1 year retrospective review. BMC women's health 2004; 4;10.

Government standards suggesting superiorily of vaginal vs abdominal approaches.

NDVH – a constantly improving surgical art. Journal of obstetrics and gynaecology of India 2011; 61(2); 182-188.

This study was undertaken to check the feasibility of vaginal route as primary route for all hysterectomy in the absence of uterine prolapse for benign conditions.

Routes of hysterectomy in women with benign uterine disease in Vancouver coastal health and providence health care regions – retrospective cohort analysis. CMAJ open 2014; 214: E273 – E280.

Vaginal Hysterectomy was associated with decreased perioperative morbidity. They perform more retrospective cohort study of all women who had a elective hysterectomy for benign indication bet 2007-2011in 8 hospitals in region.

Hysterectomy – which route? Journal of obstetrics and gynecology of India 2011; 61(5) 554-557.

Designed a study to focus women with mobile uterus, benign no larger than 14 weeks, who would ordinarily be considered. Candidate for Vaginal Hysterectomy seiected and compare outcome. When abdominal routes are chosen, they compared intra and post operative complications, requiring for blood transfusion, length of hospital stay, between abdominal and vaginal route of hysterectomy and conclude Vaginal Hysterectomy was superior than abdominal hysterectomy.

Vaginal Hysterectomy following previous ceaserean section. Steth SS, Malpani AN. International Journal of Obstetrics and Gynecology 1995 Aug 2012; 165.

To determine whether hysterectomy by vaginal route is safe and feasible in patients with previous section.

American Journal of Obstetrics Gynaecology 1998 Dec (179(6)) 1473-8.

Vaginal Hysterectomy in women with history of previous caesarean delivery. This study aimed to compare surgical outcome with Vaginal Hysterectomy between women who had more than or equal to 1 caesarean section and those who had not LSCS.

In this study concluded that women with previous LSCS is not at risk of increased peri-operative complication when undergoing Vaginal Hysterectomy.

BJOG 2003 Dec; 110(12) 115-9. Purohit technique of Vaginal Hysterectomy, a new approach (99.53%

Vaginal Hysterectomy was successfully completed in 213 cases with 1 failure (0.46%). So many Laproscopic Assisted Vaginal Hysterectomy to Abdominal Hysterectomy are avoided by this technique. Purohit technique of Vaginal Hysterectomy was done using right angled forceps, electrocautery and 10mm telescope with light source.

Taylor S.M., Romera. American Journal of Obstetrics and Gynecology 2003 Dec; 189(6). 1572-82; Discussion 1582-3.

Abdominal Hysterectomy for enlarged myomatous uterus compared with Vaginal Hysterectomy with morcellation. Purpose of this study to compare intraop and post op complications of Abdominal Hysterectomy for enlarged myomatous uterus with Vaginal Hysterectomy with morcellation.

In this large series, uterine morcellation at the time of Vaginal Hysterectomy is safe and is associated with decreased hospital stay and perioperative morbidity rate compared with abdominal route.

Othosen, BJOG 2000 Nov; 107 (11) 1380-5

3 methods of hysterectomy – a randomized prospective study of short term outcome.

- RCT
- 130 patients scheduled for hysterectomy for various indications
- Traditional Vaginal Hysterectomy group proved to be feasible and faster operating time compared to Vaginal Hysterectomy with laproscopic assistance.

- Abdominal Hysterectomy was some what faster but time spent in theatre was shorter
- Abdominal Hysterectomy required a longer hospital stay

Otah K.S. Khalilm

European Journal of obstetrics and gynaecology, April 2006. Changing the routes of hysterectomy

- The results of policy attempting vaginal approach in all cases of DUB.
- To assess the efficacy of policy of performing Vaginal Hysterectomy for as many as DUB with out prolapse bet 1997-203.
- The vaginal approach is possible for average gynec working with no additional complications and with increasing recovery rate for patients.

Meikle S.F, Nesgent EW Orleands. Complications and recovery from Laproscopic Assisted Vaginal Hysterectomy with Vaginal Hysterectomy & Abdominal Hysterectomy. Obs Gynec 1997 Fen 89(2) 304-11.

Although Laproscopic Assisted Vaginal Hysterectomy involves shorter hospital stay, speedied post operative recovery, less analgesic, increased bladder injuries and lengthier surgery.

These outcomes must be weighted when choosing an intervention.

Paparella P, Sizzi O, Rossetti A, et al.

Vaginal Hysterectomy in generally considered contraindications to vaginal surgery. Arch Gyne. Obs 2004 Sep 270(2) 104-9.

The objective was to evaluate the feasibility and complication rate of Vaginal Hysterectomy in women with enlarged uterus and other contra indications to vaginal route.

Vaginal Hysterectomy was feasible in 97% of cases.

Guidelines to determine the route of hysterectomy KOVAC SR, Obs Gynec 1995 Jan; 85(1); 18-23.

618 women assigned for hysterectomy on the basis of uterine size, risk factors and mobility of uterus.

Data regarding success of procedure, complications, length of hospital stay and convalescence and hospital charges were complied.

Vaginal Hysterectomy alone (548) or in conjunction with laproscopy (63) was successful. 99.5% was assigned to these groups.

Laproscopic surgery was necessary to permit a vaginal operation on 12/63 patient (19%) and the study concluded that specific guidelines are useful in selecting operation approach to hysterectomy and decreased the (Abdominal Hysterectomy).

ACOG committee opinion No-444

Choosing the route for hysterectomy for benign diseases. Hysterectomy was performed vaginally, abdominally or laproscopically or robotic assistance. When choosing the route and method of hysterectomy, the physician should take consideration that procedure should be performed effectively and safely to meet needs of patient. Evidence says vaginal hysterectomy has fewer complications with better outcome than abdominal and laproscopic, When it is not feasible to perform vaginal hysterectomy, surgeon must choose laproscopic / robotic / Abdominal Hysterectomy.

Journal of clinical and diagnostic research. A comparison between NDVH & Abdominal Hysterectomy. Dhiya Balakhshae & Ghgarphelia.

This study concluded that hysterectomy for benign cases – offered option of Vaginal Hysterectomy.

- Quicker recovery
- Less operative time
- Hospital stay is short
- Postoperative morbidity is less compared to Abdominal Hysterectomy

- Kumar et al, in a study conducted 80 patients planned for NDVH – success rate of 95%. These patients treated by vaginal hysterectomy.

- Garg et al – conducted a study comparing vaginal hysterectomy with Abdominal Hysterectomy with 23 patients in each group and found decreasing operative time, decreasing intraop blood loss, decreased postoperative morbidity and shorter hospital stay in vaginal hysterectomy group.

- MC Cracken et al, in this study concluded that intraoop and postop morbidity was decreased in vaginal hysterectomy compared to

Abdominal Hysterectomy and Vaginal Hysterectomy should be choice.

- Dourette and Coworkers in their study on 250 patients challenged the contraindications to Vaginal Hysterectomy including large uterus, Nulliparity and previous CS and concluded the above factors are rarely contraindications.

- Nieboer et al in systemic Cochrane renew of 9 RCT in which studies by Ottoser, Behalsi, hwary, were included Vaginal Hysterectomy is better in terms of intraoop and postoperative outcomes when compared to abdominal,and Laproscopic Assisted Vaginal Hysterectomy.

- Vaginal Hysterectomy in obese women. Pitkin Em journal a obstetrics and gynecology 1977 May 4915.

  The influence of obesity in Vaginal Hysterectomy was examined by comparing the outcome and characters in 108 patients. However these and non obese patients did not differ significantly with respective with morbidity.

  Thus obesity does not seem to improve additional risk in Vaginal Hysterectomy in contrast with Abdominal Hysterectomy in which increased morbidity related to wound infection.

- Pratt JH, Dai Koku NH

  Journal of reproductive medicine 1990 out 35(10) 945-9. Retrospective study was done on 471 consecutive Vaginal Hysterectomy done in 3 year period.

  3 groups of patients 1)Normal, 2) Overweight, 3) Obesity were compared.

  More obese has increased febrile morbidity and 1 day hospital stay longer in hospital. The vaginal approach is procedure of choice for hysterectomy in obese women.

- JAMA 1982 July 16 248(3) 323-7.

  Hysterectomy among women of reproductive age. Trends in US 1970-1978. Dicker RC, Greenspan JR.

  An estimated 3.5 million of women aged 15-44 years in US undergone hysterectomy 1970 – 78.

  Data from women having hysterectomy had higher percentage by vaginal approach.

- Vaginal Hysterectomy technique for removal of abnormally large uterus without cavity creating. BJOG Hefri MA, Bhasmik.

  Safety and efficacy of using ligasure vessel sealing system for sealing pedicles in Vaginal Hysterectomy-RCT.

  Ligasure vessel sealing system is a safe alternative for screening pedicles in Vaginal Hysterectomy when compared with conventional suture ligature.

- Evaluate study – 2 parallel RCT – one comparing laproscope with abdominal hysterectomy and other laproscope with Vaginal Hysterectomy.

  BHJ 2004 Jan 17, 328 (7432)

  Gany R Pountain J. Laproscopic hysterectomy was associated with increased rate of major complications than Abdominal Hysterectomy.

  Took longer to perform but associated with less pain and better quality of life.

- Trial comparing Vaginal Hysterectomy with Laproscopic hysterectomy was inconclusive on rate on complication. Vaginal Hysterectomy took less time.

  Journal of medical collaboratic abbottahad.

  Comparison of Vaginal Hysterectomy and Abdominal Hysterectomy – peri and post operative outcome.

  concluded that patient requiring hysterectomy for benign lesions having moderate size uterus can be offered vaginal route of surgery.

Analysis of Results

ANALYSIS OF RESULTS

The scoring system was applied for pre surgical assessment of women undergoing hysterectomy for benign conditions from Feb - Sep (2016) in IOG 100 cases was studied and for them scoring system was applied.

Intra op complication had never happened in any of the cases and No conversion to abdominal hysterectomy.

- **Descriptive Statistics**
- **Mobility of uterus**

  Mobility of uterus is a important parameter in the scoring system.

  If uterus is mobile-1

  If uterus mobility is Restricted-6.

  In our study- All 100 cases has mobility- score -1.

Mobility of uterus

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	100	100.0	100.0	100.0

- **Vaginal breadth at apex.**

  If vagina admits >2 finger- score -1

  If vagina admits <2 finger- score -6.

  In our study- All 100 cases shows that vaginal breadth at apex > 2 fingers-score-1.

Vaginal breadth at apex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	100	100.0	100.0	100.0
	Total	100	100.0	100.0	

- **Uterine size**

  Uterine size is another important parameter in the scoring system.

  When Uterine size <12 Weeks - Score - 1

  <12-16Weeks - Score - 2

  <16-18Weeks - Score - 3

  Broad uterus - Score - 6

In our study, out of 100 cases,

<12Weeks	-	Score – 1	-77 cases,
<12-16Weeks	-	Score – 2	-23 cases.

We did not handle 16-18Weeks and 18Weeks and above cases.

When the uterine size more than >18Weeks better go for ABDOMINAL HYSTERECTOMY.

For uterine size 12-16Weeks ,several Debulking techniques followed.

- Intra myometrial coring
- Uterine Bisection
- Wedge Resection
- Myomectomy
- core enucleation.

All cases are successful without any intraoperative complication and no conversion rate to Abdominal Hysterectomy.

Uterine size

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	77	77	77	77
	2	23	23	23	23

- **Endometriosis**
    - Distorted Pelvic anatomy and
    - Adhesions are often associated with Endometriosis.

In Endometriosis, pathology is not confined to uterus.

And there will be problem when clamping over the infundibulo pelvic ligaments.

Score of 1 – for Absent Endometriosis

Score of 2 – for mild Endometriosis

Score of 6 – moderate Endometriosis

In our study is 100 cases as there was no Endometriosis and score was 1.

Endometriosis

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	100	100.0	100.0	100.0

- **Removal of adnexal mass**

In scoring system, If no Removal of adnexa – score of 1

Removal of adnexa attempted – score of 2

If size of adnexal mass <6cm – score of 3

If size of adnexal mass >6cm – score of 6.

In our study in 100 cases , Removal of adnexa not done and score of 1 is given.

Removal of adnexa

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	100	100.0	100.0	100.0

- **Post LSCS**

Post LSCS are associated with pelvic as well as bladder adhesion this increases the chance of bladder tear and this risk increases with number of repeat section.

If No LSCS done – score of 1

1 LSCS done – score of 2

2 LSCS done – score of 6

In our study, in 100 cases, AUB Withprevious 2LSCS was 3 cases – score of 6.

Previous 1LSCS was 1cases – score of 2.

Even with previous 2LSCS , when NDVH is attempted , there is success of procedure as the total score was within the safe score 7-11.

Post LSCS

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	1	91	91.0	91.0	91.0
	2	7	7.0	7.0	98.0
	6	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

- **Puckering of POD**

If no Puckering , score of 1

If Puckering is present , score of 6.

Pelvic adhesions – may obliterates the culde sac, and this cause puckering or dimpling of POD vaginal vault at cervico vaginal junction.

If such patient are Encountered – opening of POD is very difficult and likely have complications if subjected to NDVH. So score of 1.

In our study of 100 cases – No puckering of POD Encontered and score of 1.

Puckering of POD

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	1	100	100.0	100.0	100.0

Thus minimum score was - 7

Safe score - 7-11

Moderate Risk of conversion - 12-16

High Risk - >16

In our study 100 cases

98 cases within safe score -> 7-11

2 cases in upper limit of moderate risk of conversion ->12.

No cases is high risk >16.

Total score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	7	69	69.0	69.0	69.0
	8	29	29.0	29.0	98.0
	12	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

Total score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Safe	98	98.0	98.0	98.0
	Moderate	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

NPar Tests

Chi-Square Test

Frequencies

Total score

	Observed N	Expected N	Residual
Safe	98	50.0	48.0
Moderate	2	50.0	-48.0
Total	100		

Test Statistics

	Total score
Chi-Square(a)	92.160
df	1
Asymp. Sig.	.000

a 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 50.0.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Mobility of uterus	100	1	1	1.00	.000
Vaginal breadth at apex	100	1	1	1.00	.000
Uterine size	100	1	2	1.02	.141
Endometriosis	100	1	1	1.00	.000
Removal of adnexa	100	1	1	1.00	.000
Post LSCS	100	1	6	1.17	.739
Puckering of POD	100	1	1	1.00	.000
Total score	100	7	12	7.39	.803
Valid N (listwise)	100				

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Total score	100	7.39	.803	.080

One-Sample Test

	Test Value = 7					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Total score	4.859	99	.000	.39	.23	.55

Discussion

DISCUSSION

As Cochrane review concluded that Vaginal Hysterectomy is far superior than Abdominal Hysterectomy / Laproscopic Assisted Vaginal Hysterectomy.

When NDVH not possible, Laproscopic Assisted Vaginal Hysterectomy has advantage over Abdominal Hysterectomy. Complications and conversion rate in our study was none when compared to other studies, as were they need for conversion.

In study by Paparella et al, used laparoscopy prior to conversion to abdominal route. They concluded reduction in conversion rate is only 1% with Laproscopic Assisted Vaginal Hysterectomy.

By using simple scoring system Kovacs guidelines pre surgically and this helped as to classify women undergoing hysterectomy for benign conditions into;

Low $\leq$ 11

Intermediate 12-16

High Risk $\geq$ 17

Low risk group can undergo safely NDVH, High risk group should undergo only Abdominal Hysterectomy.

Women with 12-16 require further assessment.

↓

If uterine size >12weeks

↓

Pathology confined to uterus

↓

Debulking procedure done

↓

Possibly morcellation for successful NDVH

When pathology not confined to uterus.

↓

Evaluate with laproscope for further management

↓

If laparoscopic procedure is indicated,

it is good to convert to Vaginal Hysterectomy as aLAVH approach.

By applying scoring system which is

- Easy
- Simple
- Did not involve any cost to patient
- Reproducible and
- Helps to classify women into low-intermediate-high risk groups.

Summary

SUMMARY

Hysterectomy is common gynecological operation done and NDVH is superior than Abdominal Hysterectomy and Laproscopic Assisted Vaginal Hysterectomy.

Though Laproscopic Assisted Vaginal Hysterectomy is safe with similar complications rates as Abdominal Hysterectomy and Vaginal Hysterectomy.

Because of few limitation like

- Costly procedure
- Expensive
- Longer learning curve
- Depends on surgeon’s expertise

However post operative recovery is similar.

But Vaginal Hysterectomy is associated with

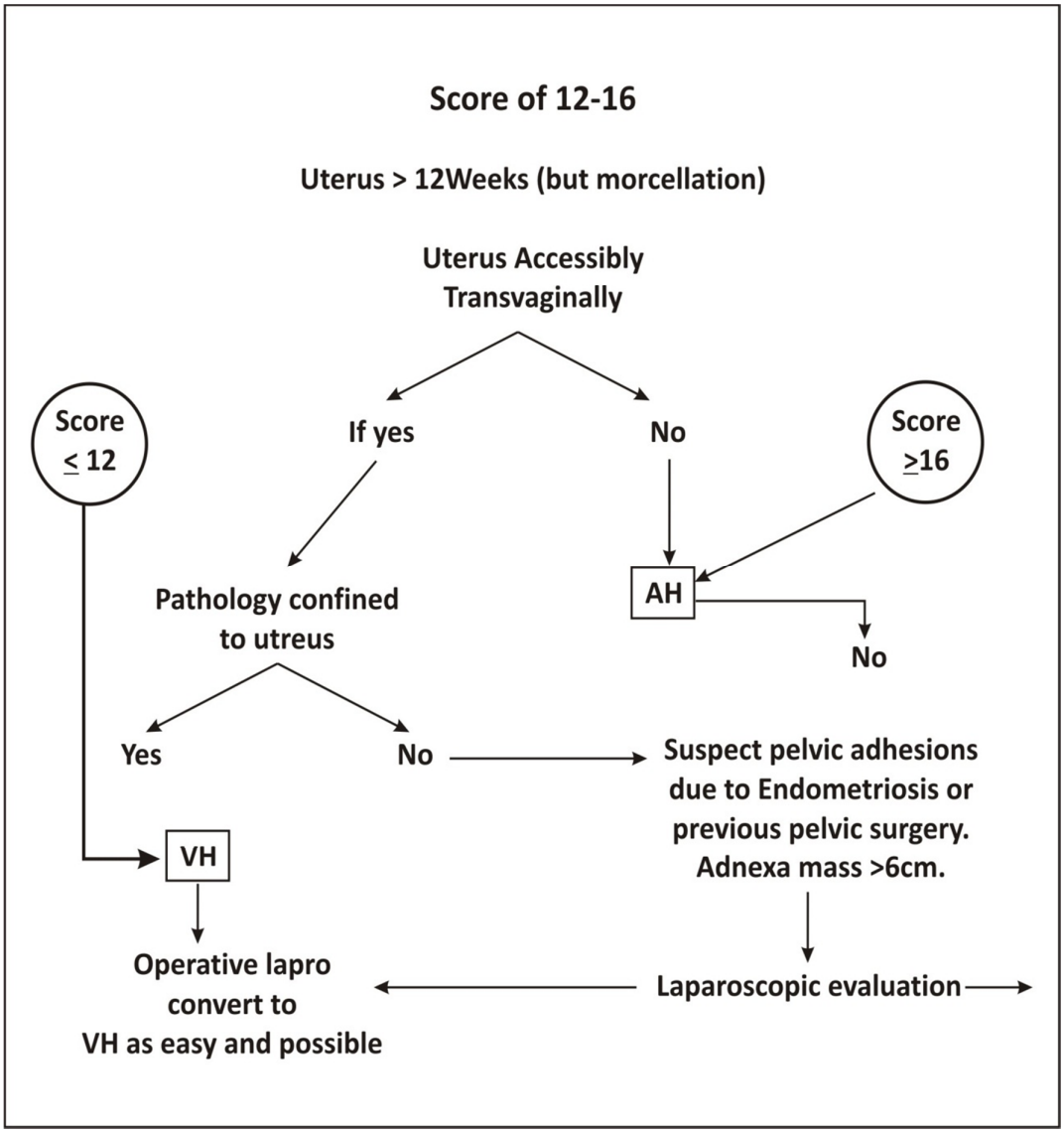
- Fewer morbidities
- Reduced stay in hospital
- Good patient satisfaction
- Rapid Recovery
- Early discharge.

By using simple scoring system taking there parameter into accurate

- Mobility of uterus
- Vaginal breadth at apex
- Uterine size
- Absence of Endometriosis
- Removal of adnexa or not
- Post LSCS
- Puckering of POD due to pelvic adhesions.

We can divide women into low risk, intermediate risk and high risk of complication and conversion rates if subjected to Vaginal Hysterectomy. And by till we can predict the better feasibility of successful NDVH.

Fig-1 Algorithm for deciding the optimal route and method of hysterectomy score of 12-16



Conclusion

CONCLUSION

Vaginal approach is best approach for gynecological surgeon than abdominal approach as Vaginal Hysterectomy done through a natural orifice.

Where as Abdominal Hysterectomy done through surgically created approach. By Kovac guidelines, a simple scoring system helped better assessment of women pre-surgically before undergoing hysterectomy for benign conditions and for deciding better feasibility to perform NDVH.

Complication and conversion rates has been decreased by this scoring system.

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Annexures

"DECIDING THE ROUTE FOR HYSTERCTOMY
INDIAN TRIAGE SYSTEM
SCORING SYSTEM FOR ASSESSMENT OF SUCCESSFUL NDVH"

PROFORMA

NAME:

AGE:

IP NO:

ADDRESS:

OBSTETRIC FORMULA:

MARITAL HISTORY:

MENSTRUAL HISTORY:

HEIGHT:

WEIGHT:

BMI:

~~**HISTORY OF PRESENTING ILLNESS**~~

FAMILY HISTORY:

PAST HISTORY:

GYNECOLOGICAL HISTORY:

EXAMINATION:

INVESTIGATIONS

USG

MASTER CHART

Scoring System to determine the success of NDVH												
S.No	PATIENTS NAME	AGE	IP. NO	Indication	Mobility of uterus	Vaginal breadth at apex	Uterine size	Endometriosis	Removal of adnexa	Post LSCS	Puckering of POD	Total score
1	Nelliammal	45	21954	AUB	1	1	1	1	1	1	1	7
2	Selvi	45	22618	AUB	1	1	1	1	1	1	1	7
3	Dolly	40	23226	Fibroid Utreus	1	1	1	1	1	1	1	7
4	Sarswathi	47	22885	Fibroid Utreus	1	1	1	1	1	1	1	7
5	Gandhi	40	21865	Fibroid Utreus	1	1	1	1	1	1	1	7
6	Shanthi	50	21825	Fibroid Utreus	1	1	2	1	1	1	1	8
7	Gloria	49	21979	AUB	1	1	1	1	1	1	1	7
8	Latha	40	21161	AUB	1	1	1	1	1	1	1	7
9	Baby	45	22000	Fibroid Utreus	1	1	1	1	1	1	1	7
10	Bhavani	52	21003	Fibroid Utreus	1	1	1	1	1	1	1	7
11	Selvi	45	20124	AUB/Prev2lscs	1	1	1	1	1	6	1	12
12	Kasthuri	47	20152	AUB	1	1	1	1	1	1	1	7
13	Amulu	42	21018	Fibroid Utreus	1	1	1	1	1	1	1	7
14	Kasthuri	52	19906	AUB	1	1	1	1	1	1	1	7
15	Dilshath	48	19934	AUB	1	1	1	1	1	1	1	7
16	Chinnaponnu	50	19495	AUB	1	1	1	1	1	1	1	7
17	Shanthi	48	18011	AUB	1	1	1	1	1	1	1	7
18	Sujatha	42	24123	Adenomyosis	1	1	1	1	1	1	1	7
19	Thirupuram	45	24978	AUB	1	1	1	1	1	1	1	7
20	Shanthi	49	19914	Fibroid Utreus	1	1	1	1	1	1	1	7
21	Revathy	50	20839	PMB	1	1	1	1	1	1	1	7
22	Shakira Begam	42	21131	AUB	1	1	1	1	1	1	1	7
23	Tamilselvi	50	23344	PMB	1	1	1	1	1	1	1	7
24	Amsa	42	23327	Fibroid Utreus	1	1	2	1	1	1	1	8
25	Rani	46	24138	Adenomyosis	1	1	1	1	1	1	1	7
26	Valarmathi	50	23236	AUB	1	1	1	1	1	1	1	7
27	Sangeetha	42	23486	Adenomyosis	1	1	1	1	1	1	1	7
28	Selvi	42	22618	AUB/Prev1Lscs	1	1	1	1	1	2	1	8
29	Maniammal	50	20987	Fibroid Utreus	1	1	2	1	1	1	1	8
30	Kalpana	42	21846	AUB	1	1	1	1	1	1	1	7
31	Lalli	42	21152	AUB/Prev2lscs	1	1	1	1	1	6	1	12
32	Kamatchi	52	22350	Fibroid Utreus	1	1	2	1	1	1	1	8
33	Mahalakshmi	45	22892	AUB	1	1	1	1	1	1	1	7
34	Lakshmi	42	23754	AUB	1	1	1	1	1	1	1	7
35	Shankari	45	23752	Fibroid Utreus	1	1	2	1	1	1	1	8

36	Shanthi	42	23330	AUB	1	1	1	1	1	1	1	7
37	Karpaga Devi	40	21079	Fibroid Utreus	1	1	1	1	1	1	1	7
38	Devi	45	26377	Fibroid Polyp	1	1	1	1	1	1	1	7
39	Deepa	48	21276	Fibroid	1	1	2	1	1	1	1	8
40	Madhu	42	16681	AUB	1	1	1	1	1	1	1	7
41	Ellammal	50	16692	PMB	1	1	1	1	1	1	1	7
42	Mageshwari	46	16315	AUB	1	1	1	1	1	1	1	7
43	Priyanka	42	14458	AUB	1	1	1	1	1	1	1	7
44	Rangammal	50	15251	Fibroid	1	1	2	1	1	1	1	8
45	Shanthi	45	18644	AUB	1	1	1	1	1	1	1	7
46	Thilaga	42	17687	Adenomyosis	1	1	1	1	1	1	1	7
47	Velankanni	45	13165	AUB	1	1	1	1	1	1	1	7
48	Chandra	50	17631	Fibroid	1	1	2	1	1	1	1	8
49	Gandhi	48	13386	AUB	1	1	1	1	1	1	1	7
50	Jegatha	50	14008	Fibroid	1	1	2	1	1	1	1	8
51	Nathiya`	42	16284	Adenomyosis	1	1	1	1	1	1	1	7
52	Pangajam	50	15478	PMB	1	1	1	1	1	1	1	7
53	Amsa	42	15464	AUB/Prev1Lscs	1	1	1	1	1	2	1	8
54	Vasantha	45	15469	Fibroid	1	1	2	1	1	1	1	8
55	Sumathi	42	13494	AUB	1	1	1	1	1	1	1	7
56	Manimegalai	45	18045	Fibroid	1	1	2	1	1	1	1	8
57	Thenmozhi	43	15432	AUB	1	1	1	1	1	1	1	7
58	Mehabevi	45	13228	Adenomyosis	1	1	1	1	1	1	1	7
59	Maragatham	50	14086	AUB	1	1	1	1	1	1	1	7
60	Jayanthi	52	13086	PMB	1	1	1	1	1	1	1	7
61	Jayalakshmi	42	10788	Fibroid/prev1Lscs	1	1	1	1	1	2	1	8
62	Sudha	60	20032	PMB	1	1	1	1	1	1	1	7
63	Parimala	42	14690	AUB	1	1	1	1	1	1	1	7
64	Gowri	45	16284	Fibroid	1	1	2	1	1	1	1	8
65	Banumathi	48	18045	AUB	1	1	1	1	1	1	1	7
66	Rama	50	15532	AUB	1	1	1	1	1	1	1	7
67	Malliga	50	17980	Adenomyosis	1	1	1	1	1	1	1	7
68	Proselvi	48	13258	Fibroid	1	1	2	1	1	1	1	8
69	Parvathi	60	14086	PMB	1	1	1	1	1	1	1	7
70	Madhavi	58	14091	PMB	1	1	1	1	1	1	1	7
71	Indra	45	14087	Fibroid	1	1	2	1	1	1	1	7
72	Govindammal	50	21008	Fibroid	1	1	2	1	1	1	1	8
73	Lallitha	40	11669	AUB/Prev1Lscs	1	1	1	1	1	2	1	8
74	Muthumari	45	14095	AUB	1	1	1	1	1	1	1	7
75	Padma	45	14199	AUB	1	1	1	1	1	1	1	7
76	Vijaya	50	13386	Fibroid	1	1	2	1	1	1	1	8
77	Parvathi	52	14008	PMB	1	1	1	1	1	1	1	7

78	Devi	45	13086	AUB/Prev1Lscs	1	1	1	1	1	2	1	8
79	Yasodhai	46	18196	Fibroid	1	1	2	1	1	1	1	8
80	Arputham	42	12219	AUB	1	1	1	1	1	1	1	7
81	Kalavathy	42	13821	Adenomyosis	1	1	1	1	1	1	1	7
82	Indra	45	14690	Fibroid	1	1	2	1	1	1	1	8
83	Kumutha	48	15472	Fibroid	1	1	2	1	1	1	1	8
84	Ellakkiya	45	14702	AUB	1	1	1	1	1	1	1	7
85	Suriya	42	14722	AUB/Prev1Lscs	1	1	1	1	1	2	1	8
86	Nandhini	46	14732	Adenomyosis	1	1	1	1	1	1	1	7
87	Sumathi	45	14792	AUB	1	1	1	1	1	1	1	7
88	Kanaga	45	15822	Fibroid	1	1	2	1	1	1	1	8
89	Saritha	42	15836	Adenomyosis	1	1	1	1	1	1	1	7
90	Rosymary	45	15845	AUB	1	1	1	1	1	1	1	7
91	Deepa	48	15925	Fibroid	1	1	2	1	1	1	1	8
92	Mothi	50	15210	AUB	1	1	1	1	1	1	1	7
93	Narmadha	40	15626	AUB/Prev1Lscs	1	1	1	1	1	2	1	8
94	Jenifer	42	16021	Adenomyosis	1	1	1	1	1	1	1	7
95	Eshwari	45	16092	Fibroid	1	1	2	1	1	1	1	8
96	Vinitha	50	16098	PMB	1	1	1	1	1	1	1	7
97	Latha	57	16121	Fibroid	1	1	2	1	1	1	1	8
98	Janaki	45	16210	AUB	1	1	1	1	1	1	1	7
99	Geetha	48	16292	Fibroid	1	1	1	1	1	1	1	7
100	Suganya	45	16298	AUB	1	1	1	1	1	1	1	7

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CERTIFICATE OF APPROVAL

To
Dr.C.Kokila,
PG in M.S.(O & G)
Madras Medical College/KGH
Chennai 600 003

Dear Dr.C.Kokila,

The Institutional Ethics Committee has considered your request and approved your study titled **"DECIDING THE ROUTE FOR HYSTERCTOMY – INDIAN TRIAGE SYSTEM – SCORING SYSTEM FOR ASSESSMENT OF SUCCESSFUL NDVH " - NO.24012016.**

The following members of Ethics Committee were present in the meeting hold on **12.01.2016** conducted at Madras Medical College, Chennai 3

1.Dr.C.Rajendran, MD.,	:Chairperson
2.Dr.R.Vimala,MD.,Dean,MMC,Ch-3	:Deputy Chairperson
3.Prof.Sudha Seshayyan,MD., Vice Principal,MMC,Ch-3	: Member Secretary
4.Prof.B.Vasanthi,MD.,Inst.of Pharmacology,MMC,Ch-3	: Member
5.Prof.P.Raghumani,MS, Dept.of Surgery,RGGGH,Ch-3	: Member
6.Prof.M.Saraswathi,MD.,Director, Inst.of Path,MMC,Ch-3	: Member
7.Tmt.J.Rajalakshmi, JAO,MMC, Ch-3	: Lay Person
8.Thiru S.Govindasamy, BA.,BL,High Court,Chennai	: Lawyer
9.Tmt.Arnold Saulina, MA.,MSW.,	:Social Scientist

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

MADRAS MEDICAL COLLEGE
21 JAN 2016
CHENNAI-600 003

Member Secretary – Ethics Committee

MEMBER SECRETARY
INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE
CHENNAI-600 003

Received by Kokila. 11/1/16

INFORMATION SHEET

- We are conducting a study on **"DECIDING THE ROUTE FOR HYSTERCTOMY – INDIAN TRIAGE SYSTEM - SCORING SYSTEM FOR ASSESSMENT OF SUCCESSFUL NDVH"** among patients attending Government Kasturba Gandhi Hospital and Institute of Obstetrics and Gynecology, Chennai and for that your clinical details may be valuable to us.

- We are selecting certain patients and if you are found eligible, we may be using your clinical details in such a way so as to not affect your final report or management.

- The privacy of the patients in the research will be maintained throughout the study. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared.

- Taking part in this study is voluntary. You are free to decide whether to participate in this study or to withdraw at any time; your decision will not result in any loss of benefits to which you are otherwise entitled.

- The results of the special study may be intimated to you at the end of the study period or during the study if anything is found abnormal which may aid in the management or treatment.

Signature of investigator Signature of participant

Date: 12.2015

CONSENT FORM

STUDY TITLE : "DECIDING THE ROUTE FOR HYSTERCTOMY – INDIAN TRIAGE SYSTEM SCORING SYSTEM FOR ASSESSMENT OF SUCCESSFUL NDVH"

STUDY CENTRE : Institute of Social Obstetrics,
Govt. Kasturba Gandhi Hospital &
Institute of Obstetrics & Gyneacology,
Chennai-5.

PARTICIPANT NAME : AGE: SEX: MRD.NO:

I confirm that I have understood the purpose of procedure for the above study, I have the opportunity to ask the question and all my questions and doubts have been answered to my satisfaction.

I have been explained about the possible complications that may occur during the procedure, I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving any reason.

I understand that investigator, regulatory authorities and the ethics committee will not need my permission to look at my health records both in respect to the current study and any further research that may be conducted in relation to it, even if I withdraw from the study. I understand that my identity will not be revealed in any information released to third parties of published, unless as required under the law. I agree not to restrict the use of any or results that arise from the study.

I hereby consent to participate in this study of "DECIDING THE ROUTE FOR HYSTERCTOMY – INDIAN TRIAGE SYSTEM - SCORING SYSTEM FOR ASSESSMENT OF SUCCESSFUL NDVH"

Signature of Investigator:

Place : Chennai
Date : .12.2015

Study Investigators Name

Institution

Signature / Thumb Impression of patient