Progress in Gynaecological Cancer Treatment

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Progress in Gynaecological Cancer Treatment

1. Treatment has become more comprehensive and Gynaecological Oncology has been recognised as a sub-specialty practice.

2. Surgery : More Complex ; Laparoscopic Surgery ; New Surgery.

3. Greater array of medical treatment, Chemotherapy and Targeted therapy.

4. Introduction of HPV vaccines would reduce Cervical cancers, CINs and related HPV-diseases within the next 20 to 30 years.

5. Highly fatal gynaecological cancers are attracting trials of new treatment.

Progress in Gynaecological Cancer Treatment

1. Treatment has become more comprehensive
   &
   Gynaecological Oncology recognised as a Sub-Specialty practice.

Progress in Gynaecological Cancer Treatment

Key Facets of Current GYN Oncology Practice :

A. Expectations of Patients – Higher

B. Medical Care Providers – Team

C. Matching International Standards – Patients' Awareness

D. Academic Activities – Complements care

The Practice of Gynaecological Oncology in this Century

A. Expectations of Patients are Higher:

1. Cure or Longer Survival
2. Reproductive Function Preserved
3. Sexual Function Intact
4. Reduced Side Effects — e.g. Lymphoedema
5. Palliative Care — i.e. End-of-Life care

The Practice of Gynaecological Oncology in this Century

B. Care Providers :

1. GYN Oncologists - Overall Carer & Co-ordinator
2. Radiation Oncologist - Radiotherapy
3. Medical Oncologists - Chemotherapy
4. Palliative Physician - QOL and Symptomatic treatment
5. Nurses - Higher level of nursing
6. Allied Healthcare - Physiotherapist, Dietitian, etc.

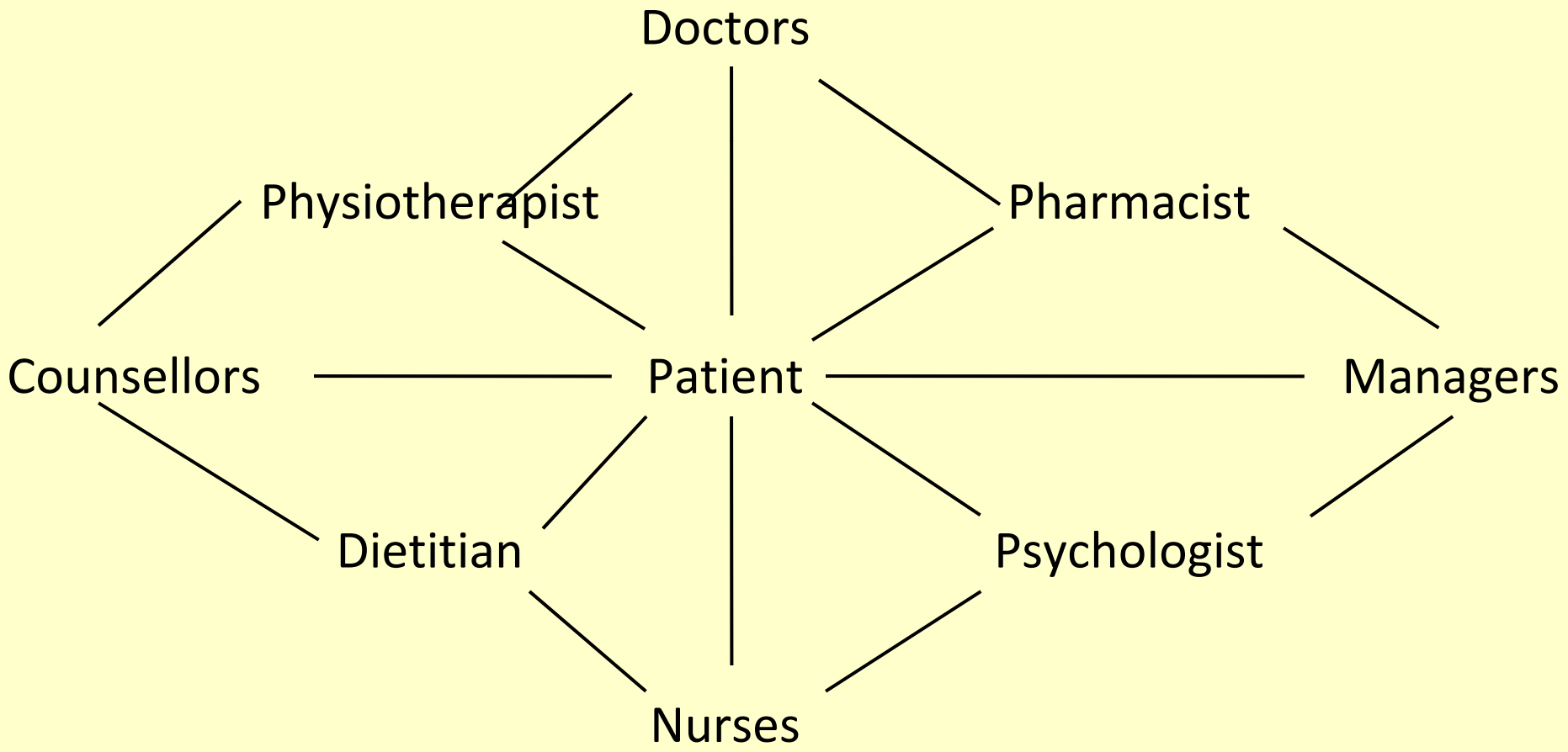
The Practice of Gynaecological Oncology in this Century

B. Other Important Collaborators :

1. Anaesthetists
2. Colorectal Surgeon
3. Plastic Surgeon
4. ID Physician
5. Dermatologist

The Practice of Gynaecological Oncology in this Century

The Cancer Care Team



The Practice of Gynaecological Oncology in this Century

C. Matching International Standards

1. Establishing Quality

- Up-to-date Therapy
- Continual Caring : From start – to – Indefinite
- Holistic Care

2. Gaining Recognition

The Practice of Gynaecological Oncology in this Century

D. Academic Activity

1. Tumour Board
2. Research
3. Teaching

Progress in Gynaecological Cancer Treatment

Advancement in Surgery

1. Individualized Surgery
2. Laparoscopic Surgery
3. Reconstructive Surgery

Progress in Gynaecological Cancer Treatment

2. Surgery :
   - More Complex
   - Laparoscopic Surgery
   - New Surgery

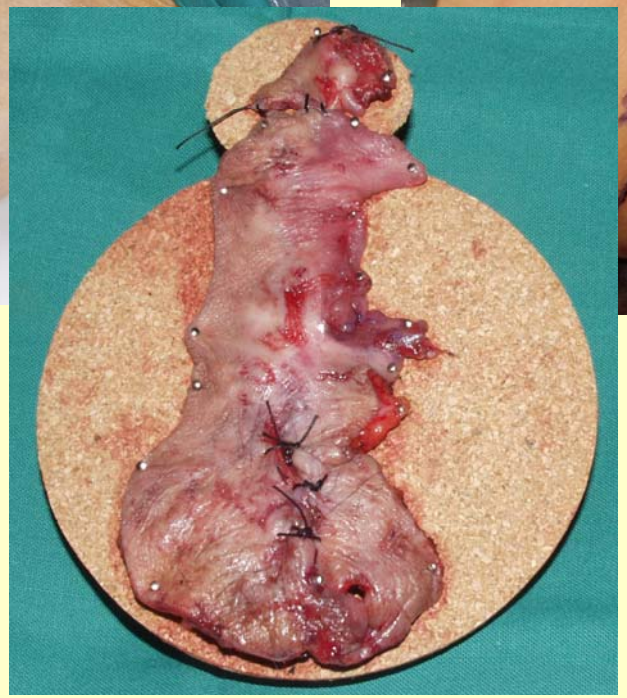
2. Surgery : More Complex

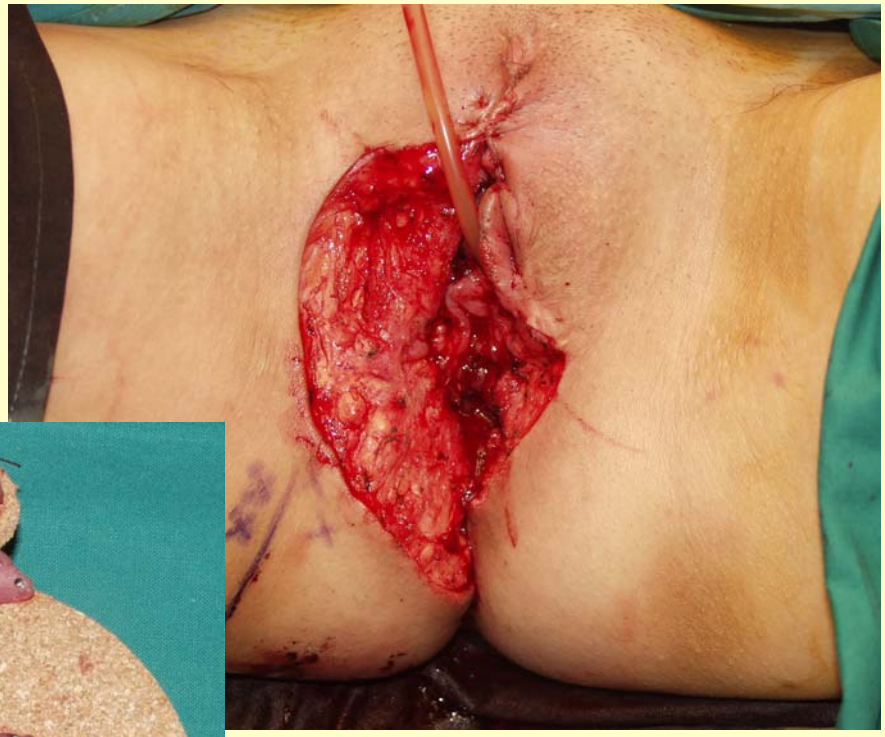
Example 1 : Vulvar Cancer

The employment of Reconstructive Surgery

To Restore Body Image.

Vulvar Cancer Surgery





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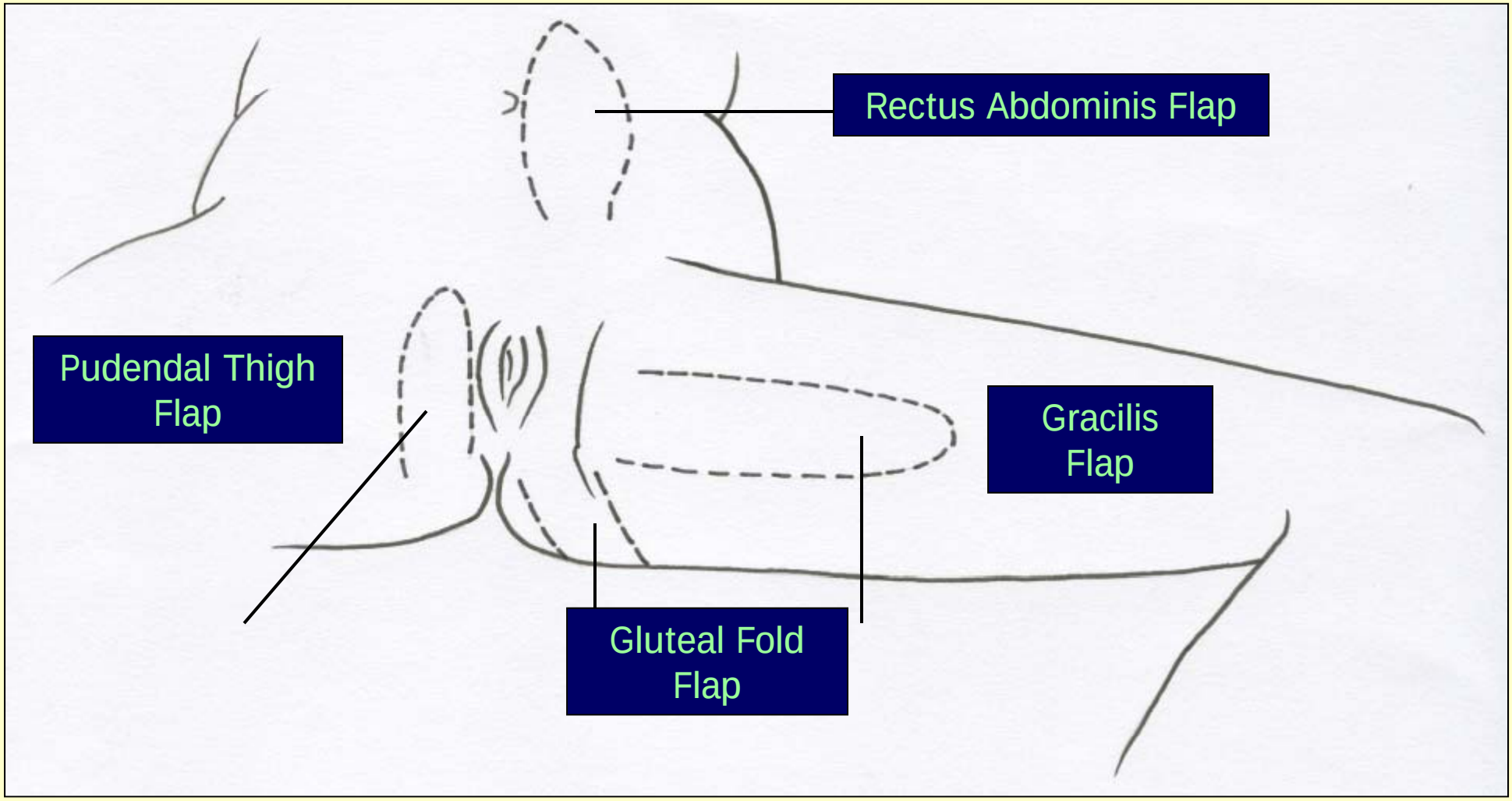
Flaps



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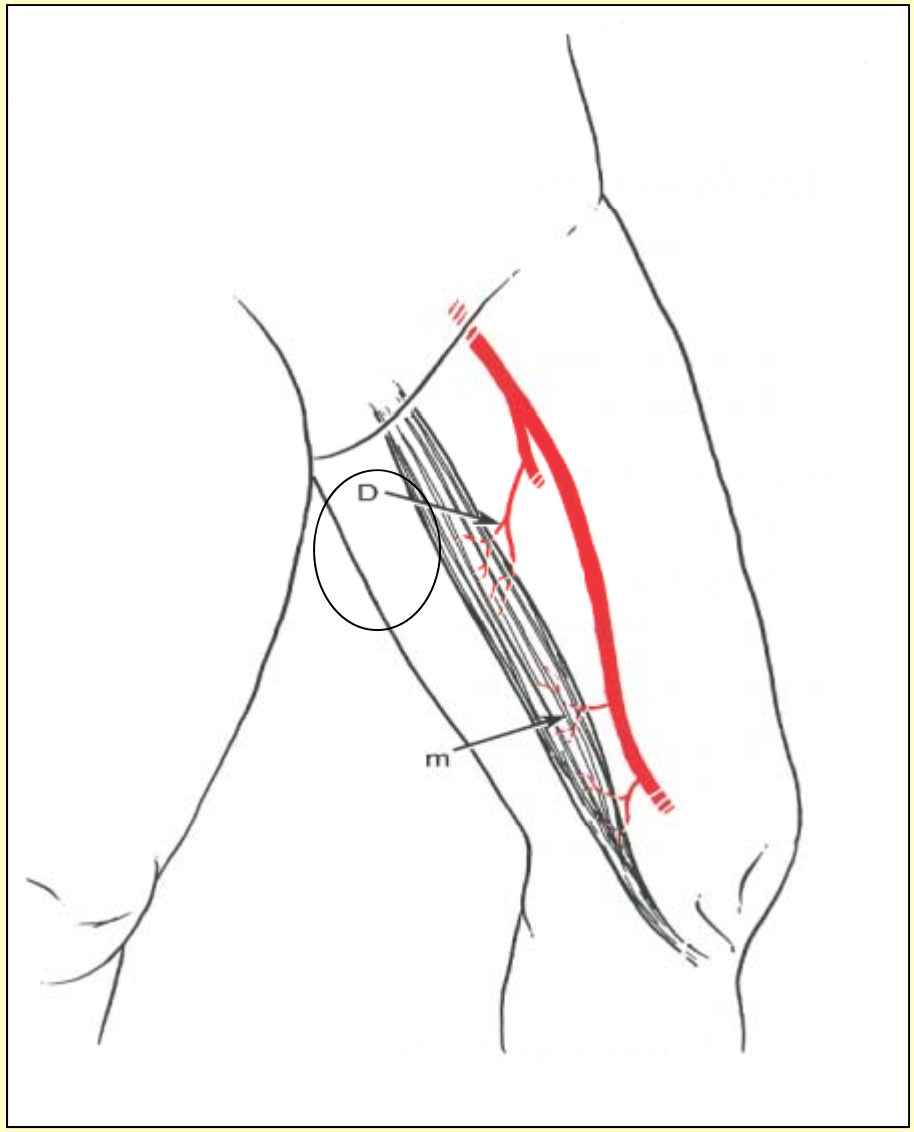
Gracilis myocutaneous flap



Blood supply :

Ascending branch of the medial circumflex femoral artery

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Gracilis Flap

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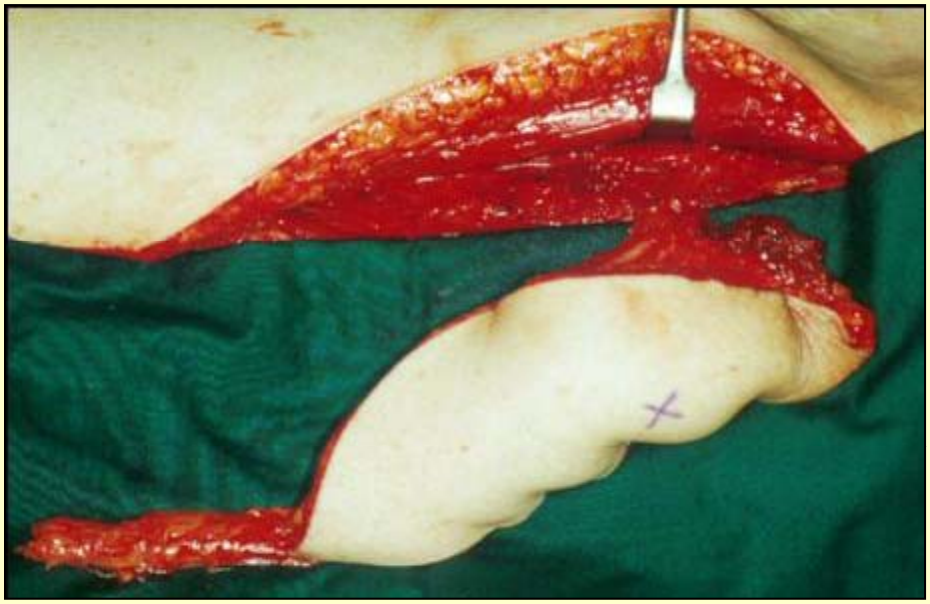
Gracilis Myocutaneous Flap



Gracilis muscle to obliterate dead space

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Gracilis Myocutaneous Flap

6 months post-op

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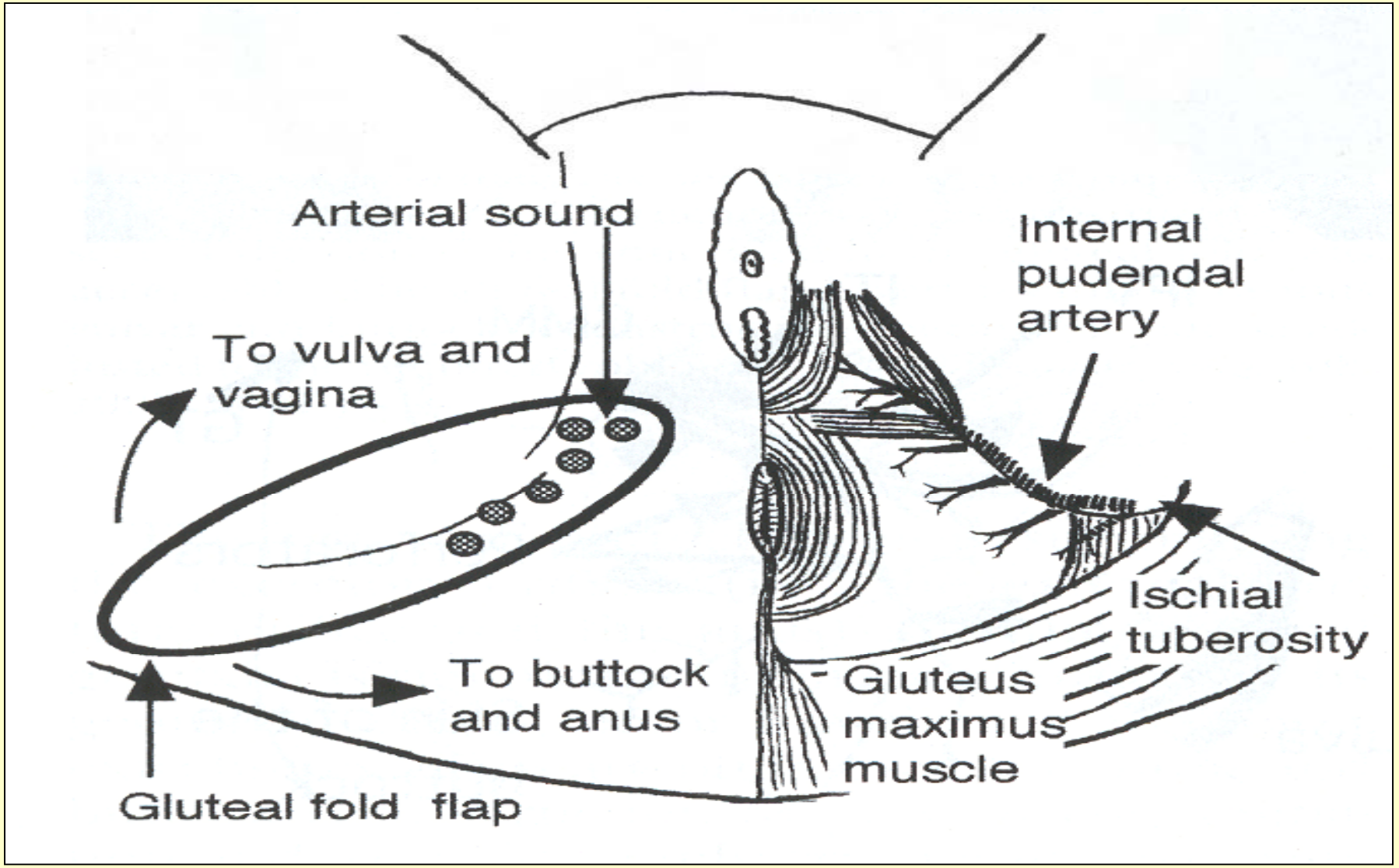
Gluteal Fold Flap



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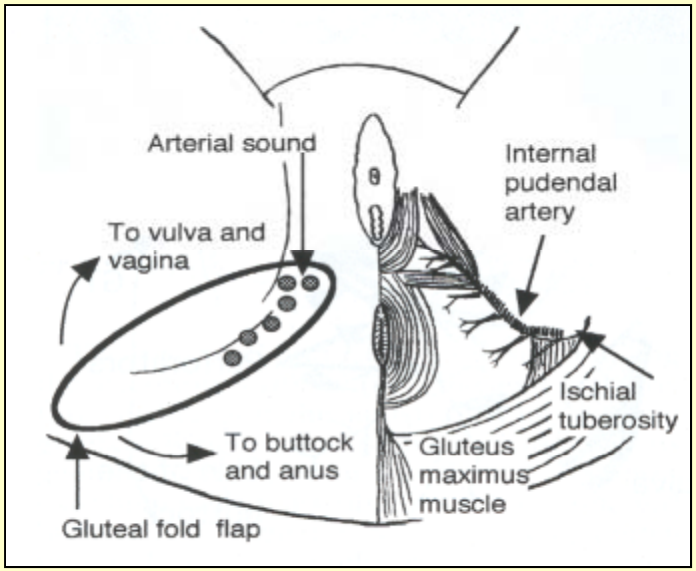
Gluteal Fold Flap



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Gluteal Fold Flap

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Gluteal Fold Flap

1 month post-op

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Vulvar Cancer & Sentinel Node Biopsy

- Groin Nodes Resection may cause severe Lymphoedema.
- Routine Resection may over-treat too many patients.
- Sentinel Node Resection permits Individualisation.
- Best done in Centres with large experience of vulvar cases.

Rare Tumour

Angio-myxoema of the Vulva

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Angio-myxoema of the Vulva

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Angio-myxoema of the Vulva

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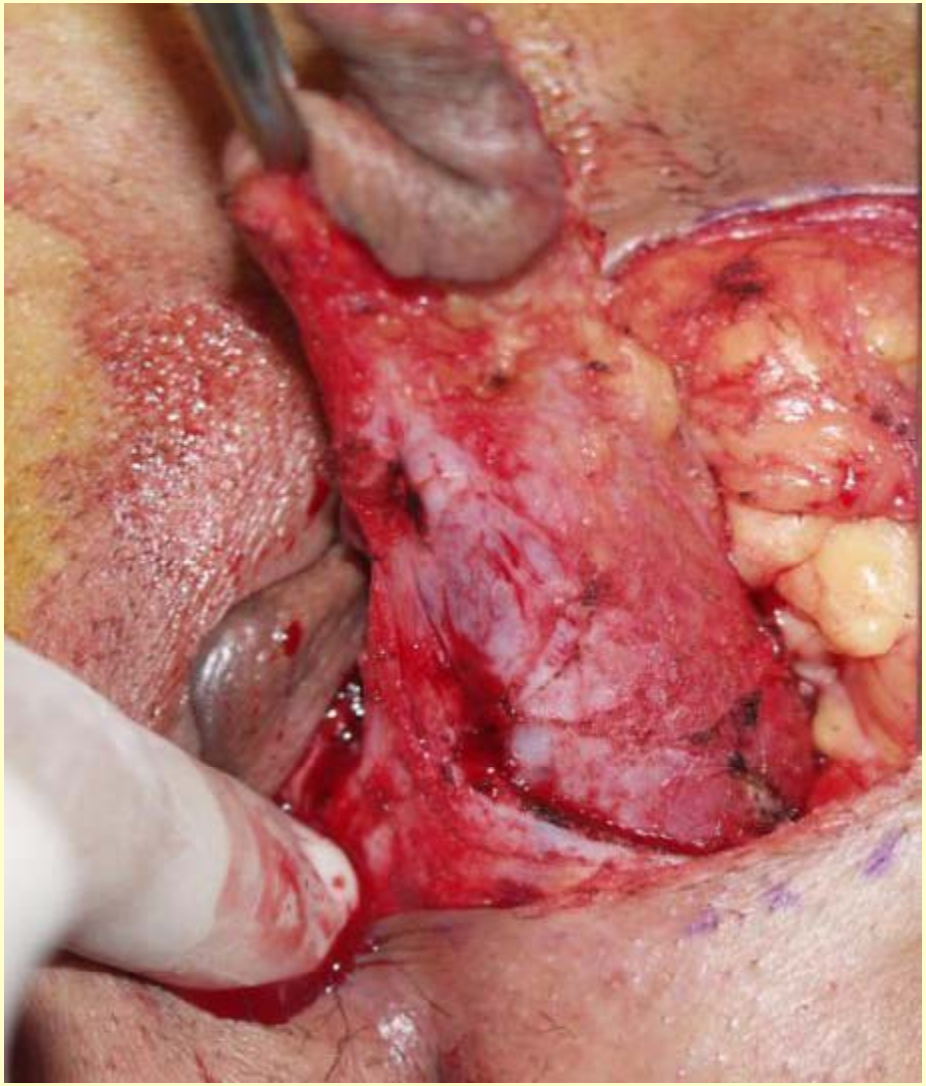
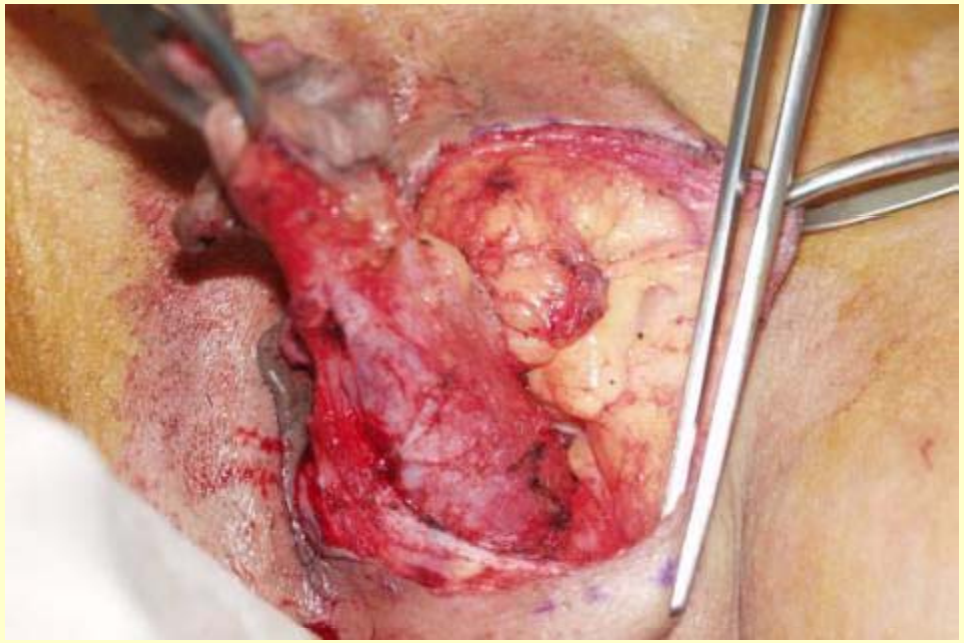
Angio-myxoema of the Vulva





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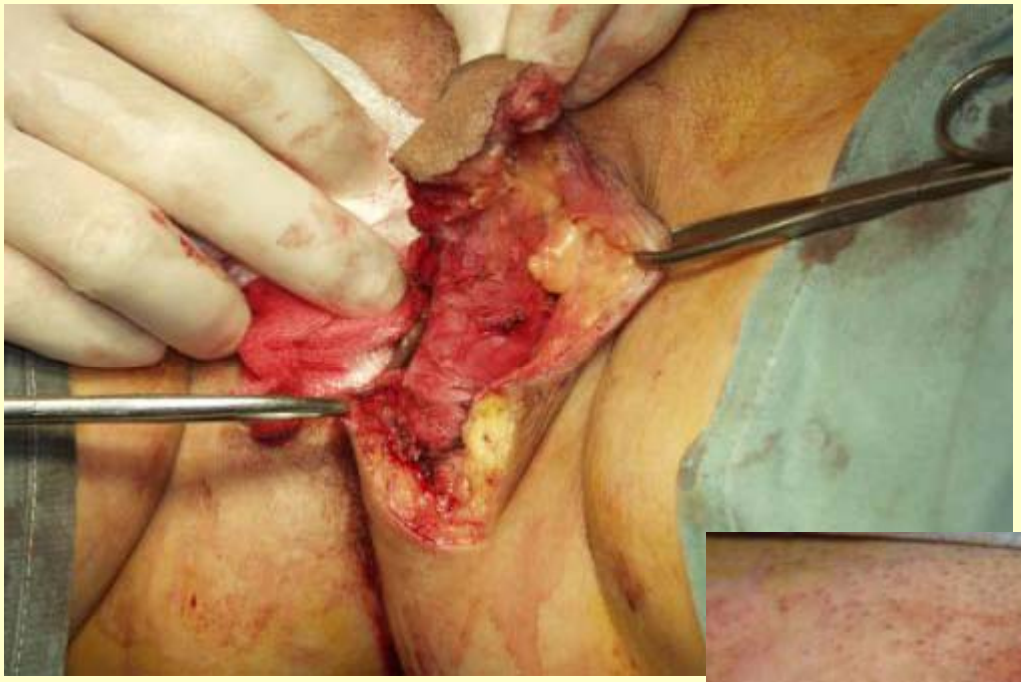
Angio-myxoema of the Vulva



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Angio-myxoema of the Vulva

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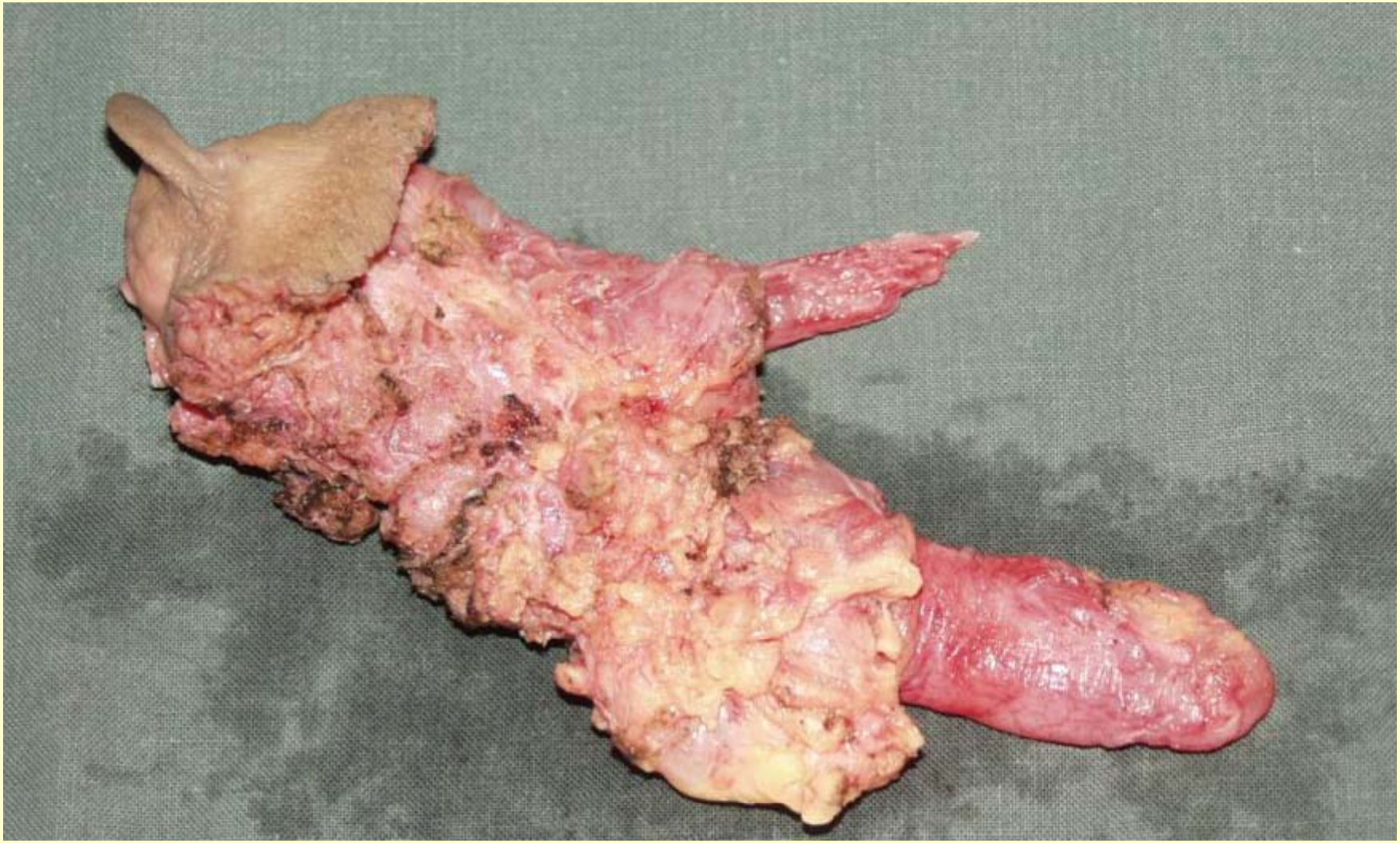

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Angio-myxoema of the Vulva

1 month post-op

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2. Surgery : Laparoscopic Surgery

Duplicate open procedures

- For Lesser Morbidity

But

- No Change in Recurrence Rate
- No Change in Survival Outcome

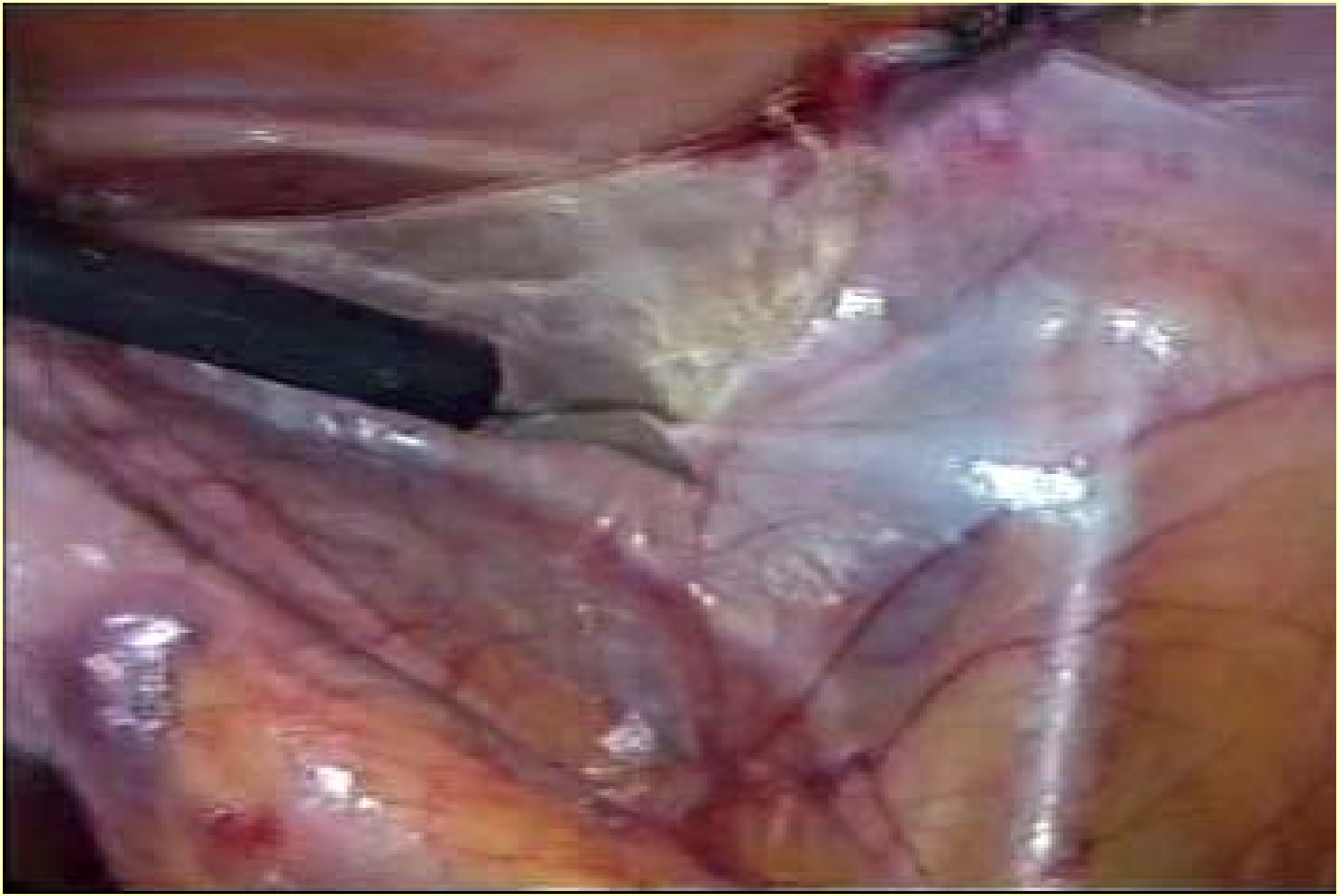
Laparoscopic Surgery for GYNAE CANCERS

Key Procedures Using Laparoscopic Surgery:

1. Laparoscopic Simple Hysterectomy
2. Laparoscopic Lymph Nodes Resection
3. Laparoscopic Radical Hysterectomy (still evolving)

4. Laparoscopic Adnexal Mass evaluation
5. Laparoscopic Early Ovarian Cancer Staging Surgery

Laparoscopic Pelvic Lymphadenectomy



Laparoscopic Lymphadenectomy as a Standard Treatment

Annals of Academy of Medicine Singapore – March 2009

First 50 Consecutive Patients – Personal Series

Age of patients : 22 to 76 years old
Mean : 51 years old
Median : 51 years old
10 patients (20%) being above the age of 60.

Median BMI : 25
Range : 18 – 43
20% BMI of 30 or more
3 BMI of more than 35

Laparoscopic Lymphadenectomy as a Standard Treatment

Blood Loss

39 (78%) : Insignificant
5 (10%) : 100mls – 300mls.
5 (10%) : 300mls – 600mls
1 (2%) : 800mls

Patient needed hemostasis for the bladder base

No blood transfusion was needed, Pre-op Hb:12.7g/% and 10.1g/% 2nd POD

Routine 2nd POD Hb

Average post-operative difference was only negative 1.2g%

Nodes Count

Mean Node Count **22**
Range **18 – 32**

Time (hrs)	Total*	Nodes	Hysterectomy
Range	2.4 – 6.1	1.8 – 0.8	1.5 – 3.9
Median	3.1	1.0	1.5

* From Induction to Reversal

Laparoscopic Lymphadenectomy as a Standard Treatment

Post-op Course

70% stayed for 5 days or less after the surgery

Median	: 4 days.	
Shortest	: 2 days	(n= 2)
Longest	: >5 days	(n=14)

More than 5 days:

1. Post-operative depression
2. Chest infection
3. High pelvic drainage

4&5 Port-site herniation (early cases) - good outcome.

Laparoscopic Lymphadenectomy as a Standard Treatment

Post-op Course

Full Ambulation

40% : fully ambulating by 1st POD

90% : by the 2nd POD

Full Oral Intake

70% : Oral intake by 1st POD

96% : 2nd POD

Laparoscopic Lymphadenectomy as a Standard Treatment

Post-op Course

Catheter Care

80% : Routinely taken off 2nd post-operative day

20% : Beyond the routine period of 2 days

Pelvic Drains

86% : Routinely Taken off by the 4th POD (initial)

Now 2nd POD (routine)

10% : Day-5 to Day-7

4% : Till day-13 & day-15 – copious lymphatic fluid drainage.

Laparoscopic Lymphadenectomy as a Standard Treatment

Analgesics

Day 1 : Parenteral Pethidine 6H/PRN (88%)
: PCA Morphine (4%)
: Only oral analgesics (4%)
: Nil (4%)

After Day 1 : Mefanamic acid/Ponstan (72%)
Paracetamol (50%)
Declofenac Sodium/Voltaren (40%)
Panadeine (2%)
Codeine phosphate (6%)
Tramadol (16%)
Asprin (2%)
(combinations of non-parenteral analgesics used)

Laparoscopic Lymphadenectomy as a Standard Treatment

Is the oncological indicator outcome at least the same ?

Recurrence and Survival

Median follow-up : 26 months (range: 1 – 143 months)
Default : 4 cases

DFS period = Date of surgery to the date of the last follow-up visit
Median DFS : 27 months (up to 143 months)
12 (24%) patients : 5 to 10 years

All except 2 patients are free of disease to-date.
1 patient developed new cancer of the peritoneal at 35 months
1 patient (FIGO stage 3C) had distant lymph node metastases at 19 months post-operative.

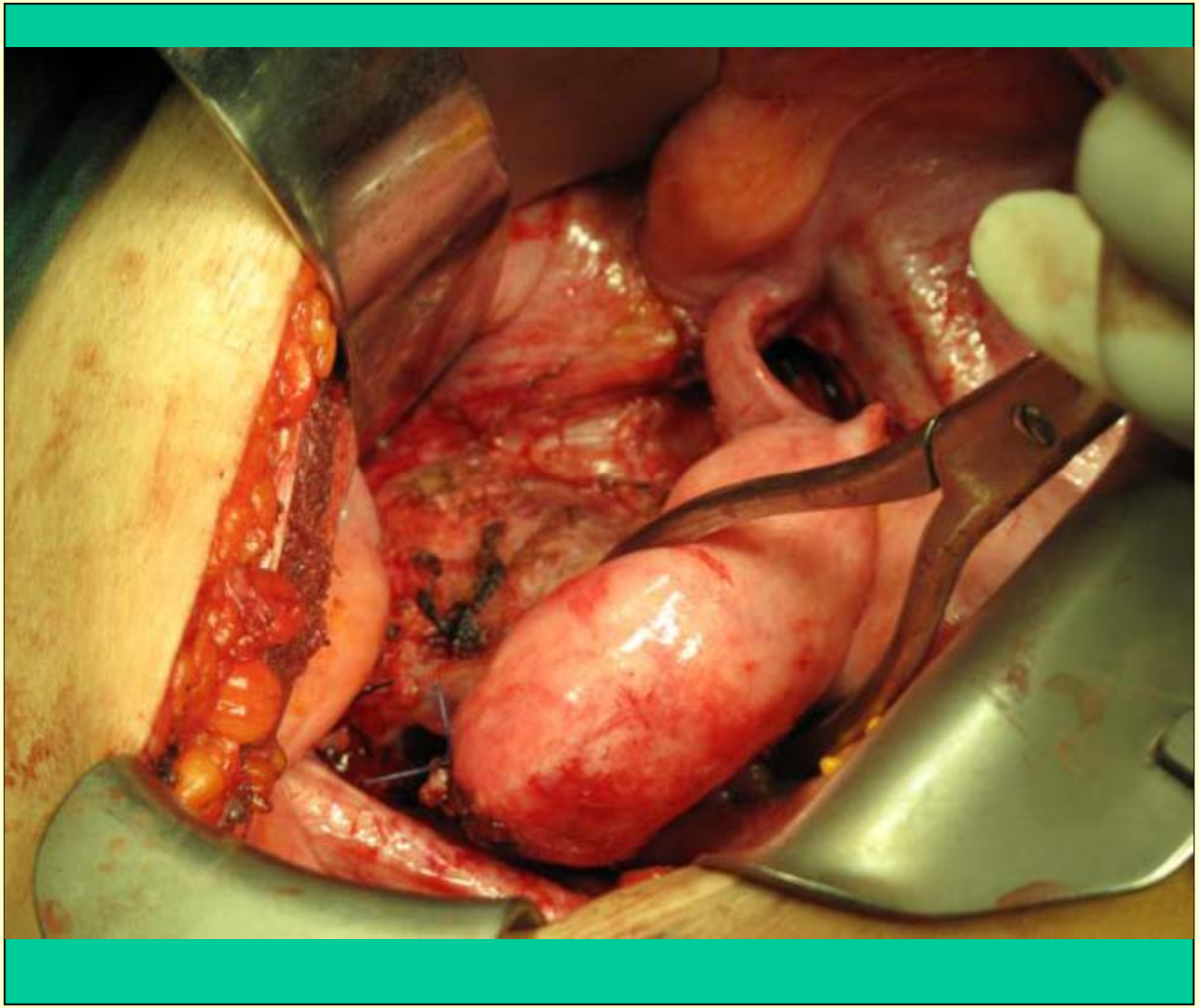
There has been no case of port-site disease.

2. Surgery : Fertility-preserving Surgery

Abdominal Trachelectomy

- 32 years old
- SCC Cervix IB Nodes positive
- Radiotherapy 2008

- Post-RT CIN – Cone Biopsy
- Functioning Uterus
- Now recurrent CIN
- Colposcopy unclear



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Singapore's First Abdominal Trachelectomy Preserves Fertility in Cervical Cancer Patient

Medical History

- Mdm L.G. had FIGO 1B Cervical Cancer, 2008, Age 30.
- 2008 : Laparoscopic Pelvic Lymphadenectomy – positive for cancer.
- Laparoscopically the ovaries were transposed
- Pelvic Radiotherapy.
- Her ovaries continue to function after RT.
- But she stops menstruating after RT.

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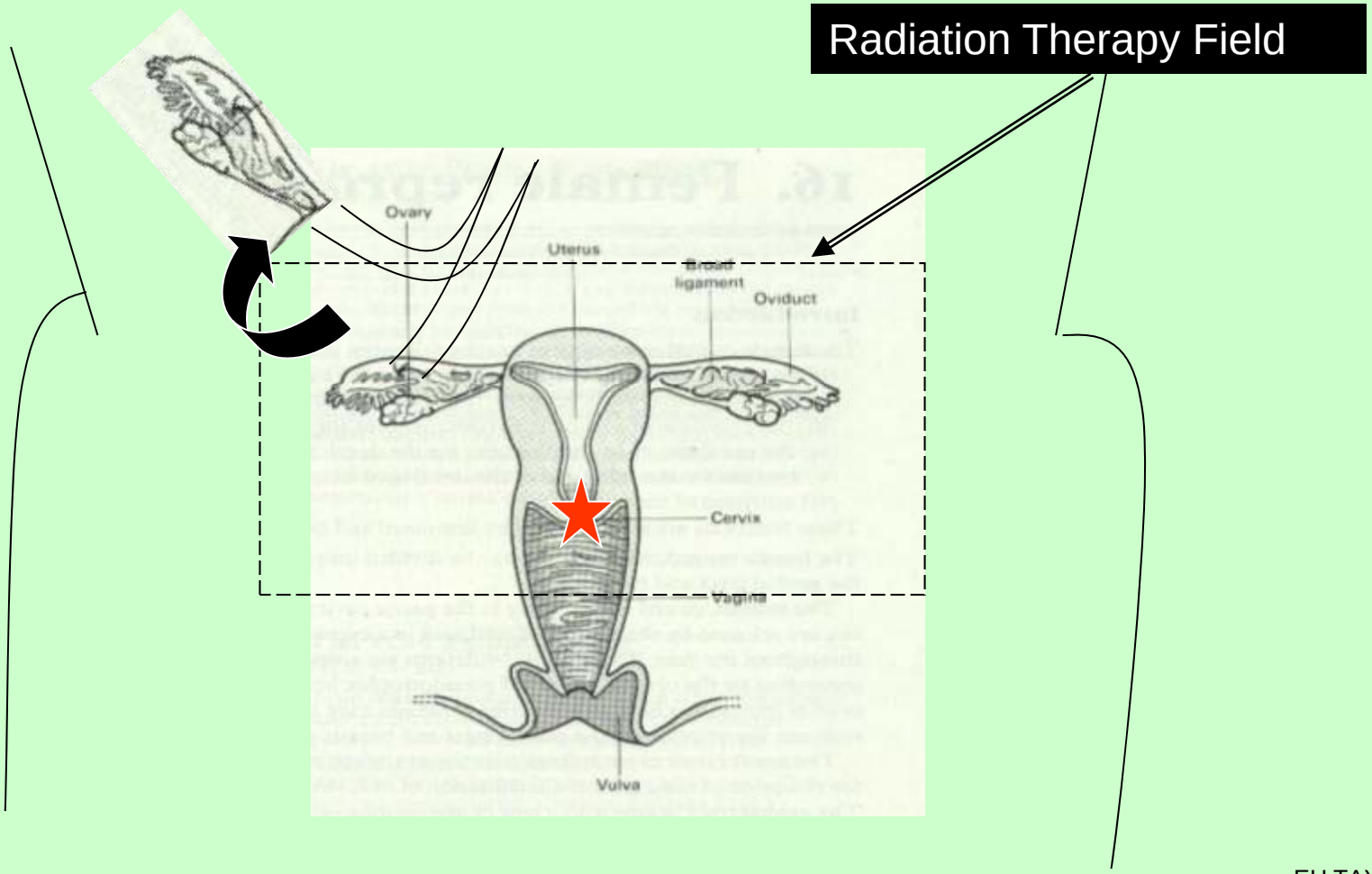
Radiation Therapy Field
– conserving the ovarian function –



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Singapore's First Abdominal Trachelectomy Preserves Fertility in Cervical Cancer Patient

Uncommon Recovery – Recurrent CIN

- Surprisingly, Lisa started menstruating spontaneously and regularly in 2009.

- <5% of Uterus functions again after RT.

- She develops CIN on radiated cervix – LEEP Cone was done (2009) to exclude cancer and excise CIN.

- 8 months later, there was evidence that CIN was recurring. Cervix is not suitable for excision.

Singapore's First Abdominal Trachelectomy Preserves Fertility in Cervical Cancer Patient

A Dilemma

- The cervix is no longer suitable for excision.
- The best and safest option is to remove her cervix.
- Patient wants to keep her menstrual function and uterus.

A Special Surgery

- **Abdominal Trachelectomy** was planned and performed.
- It removes the cervix and joins the uterus back to her vagina.

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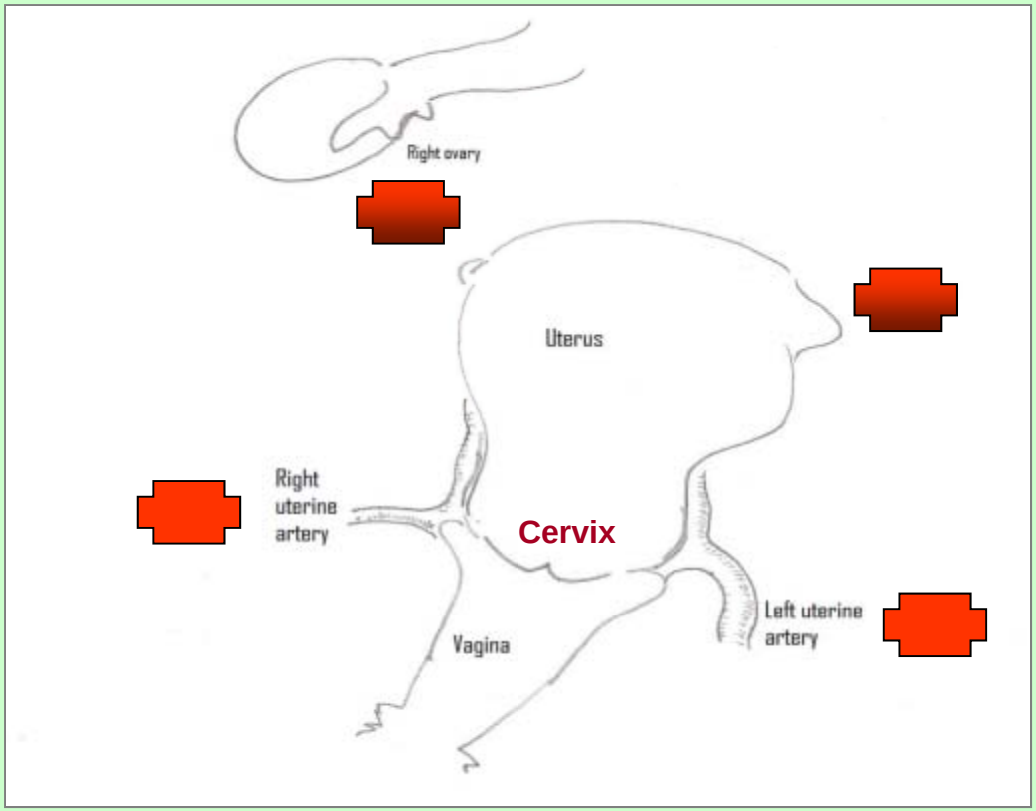
Singapore's First Abdominal Trachelectomy Preserves Fertility in Cervical Cancer Patient

The Technical Difficulty

- Patient's uterus only has 1 blood supply now.
- The ovarian blood vessels were diverted from the uterus.



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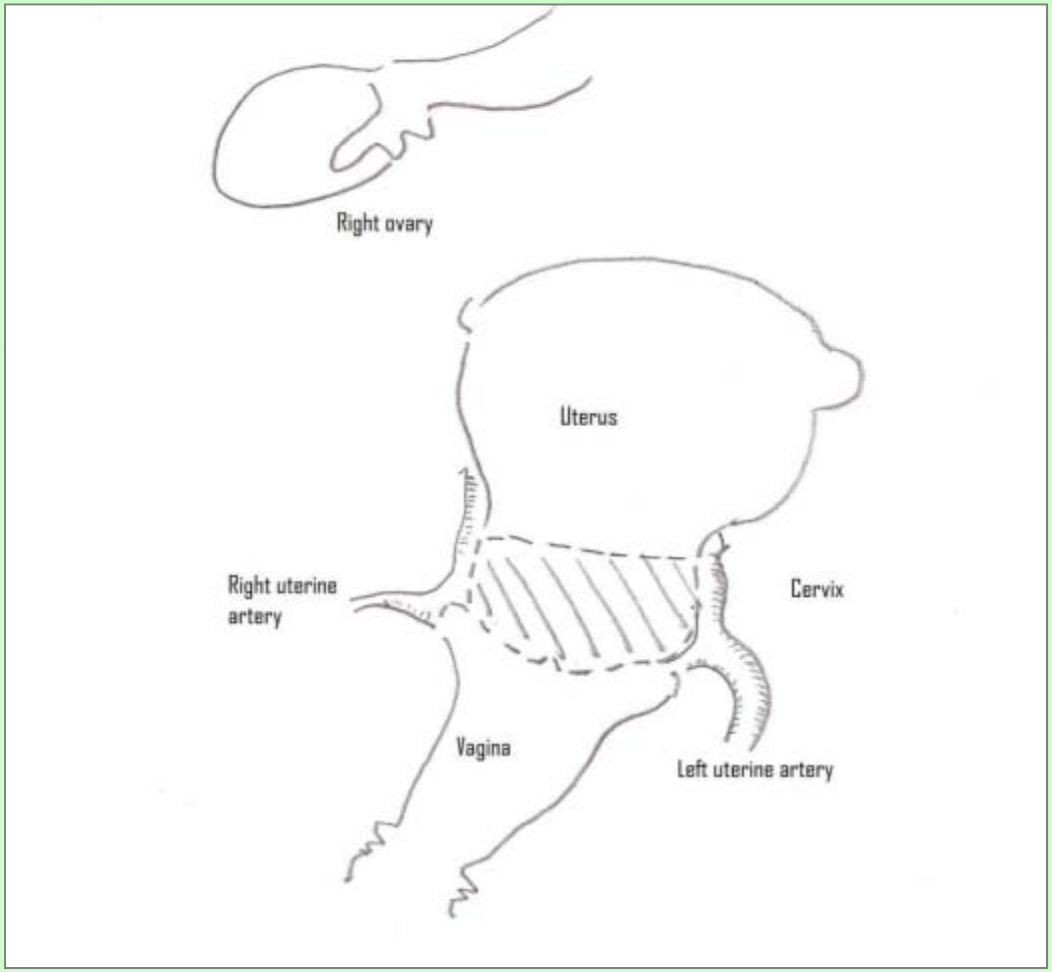

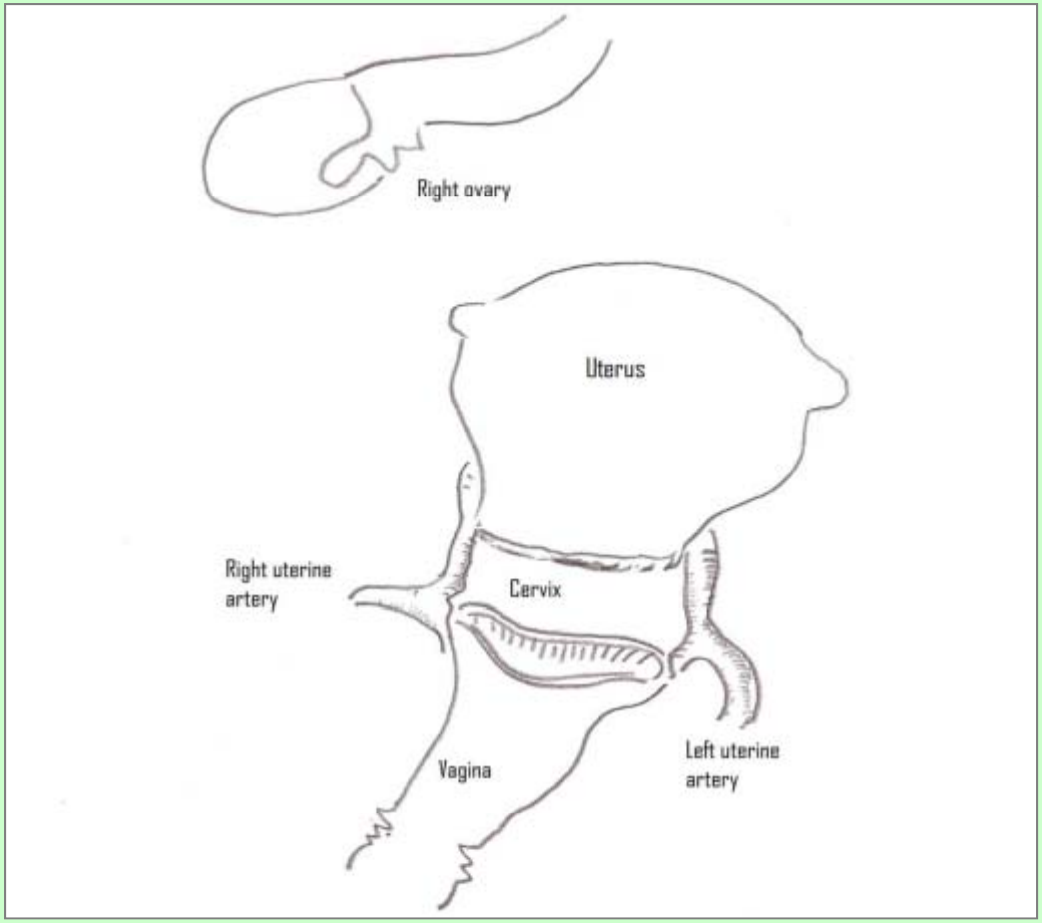

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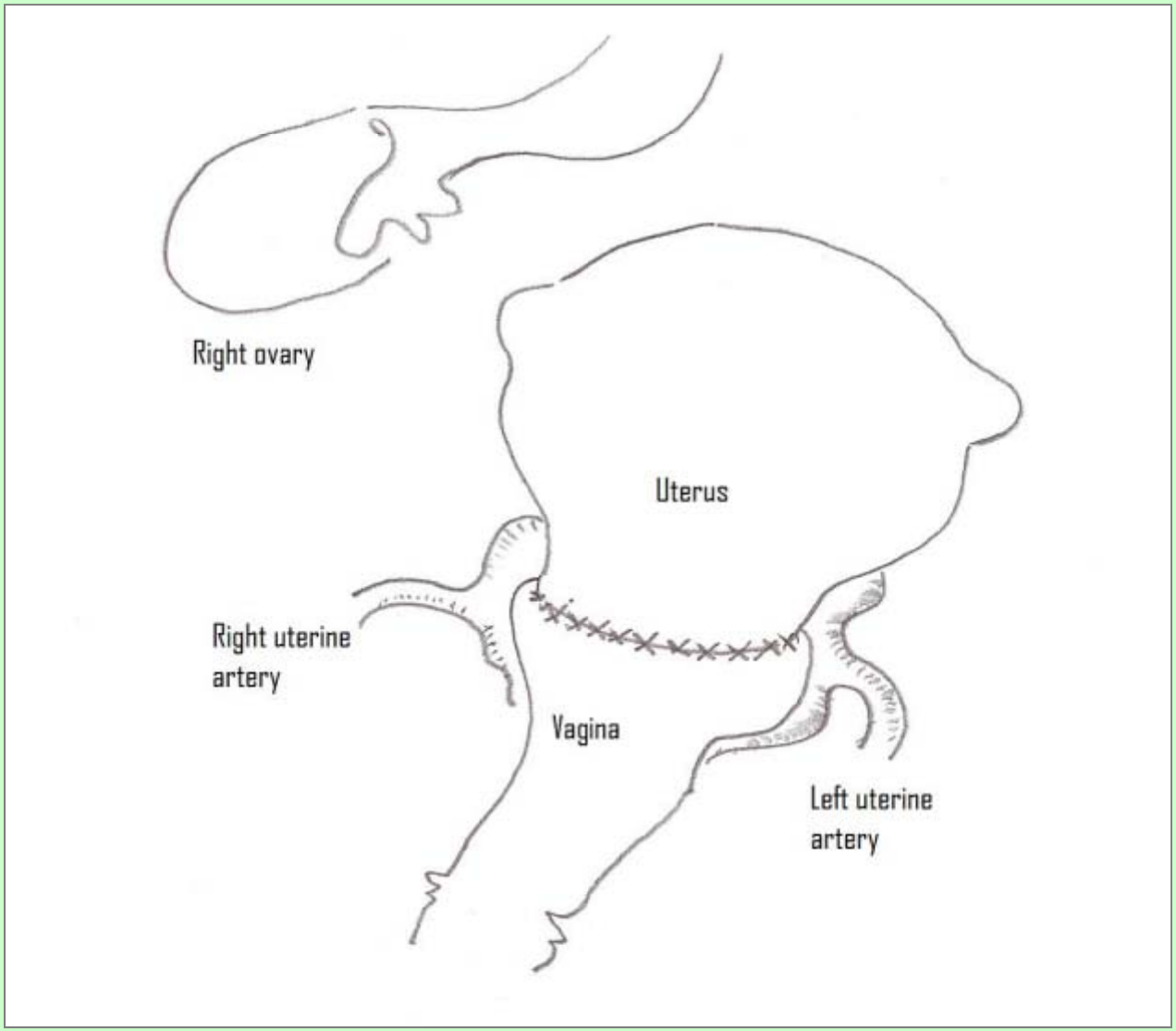
Singapore's First Abdominal Trachelectomy Preserves Fertility in Cervical Cancer Patient



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Surgery : Abdominal Trachelectomy

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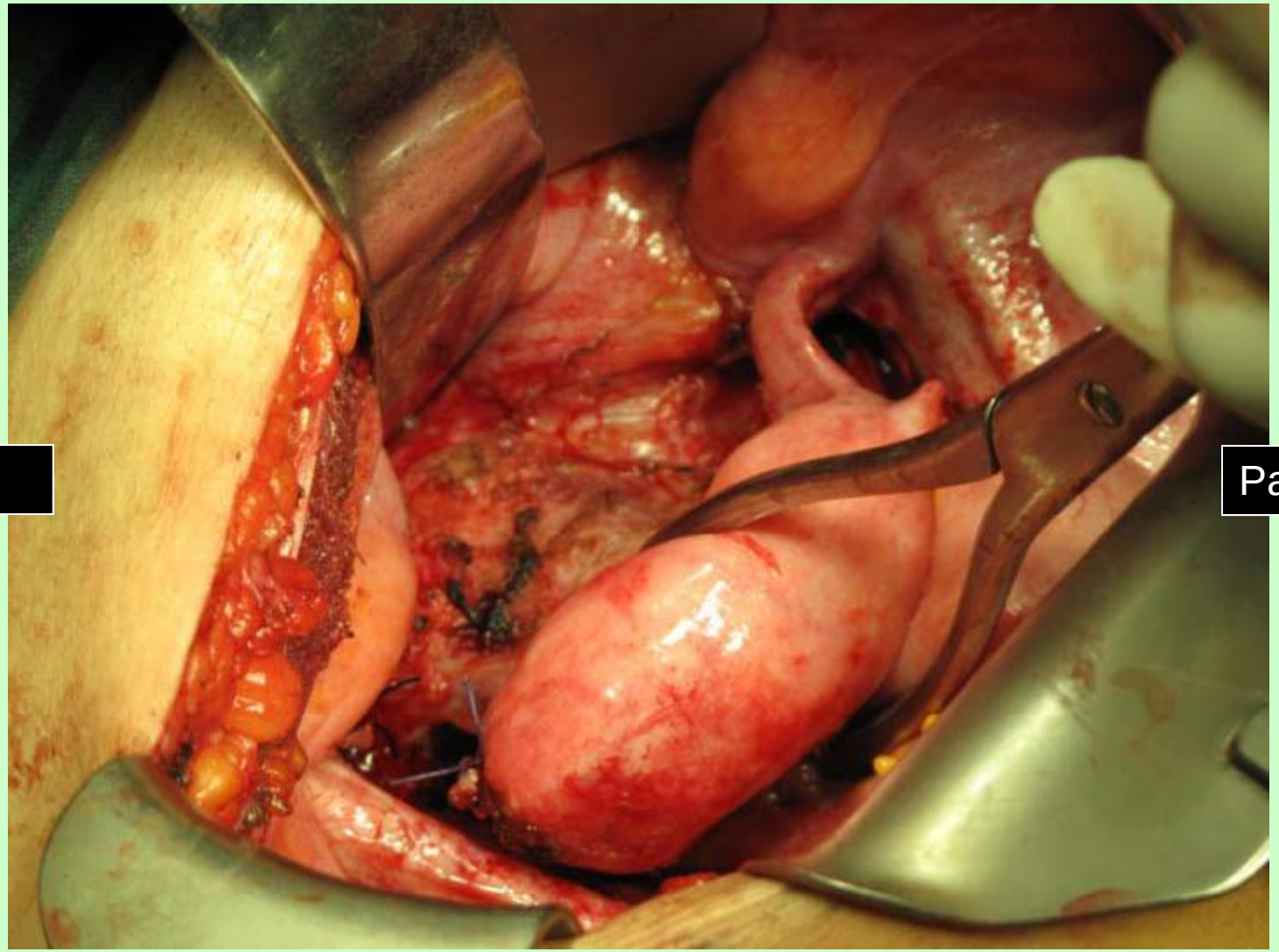

Surgery : Abdominal Trachelectomy

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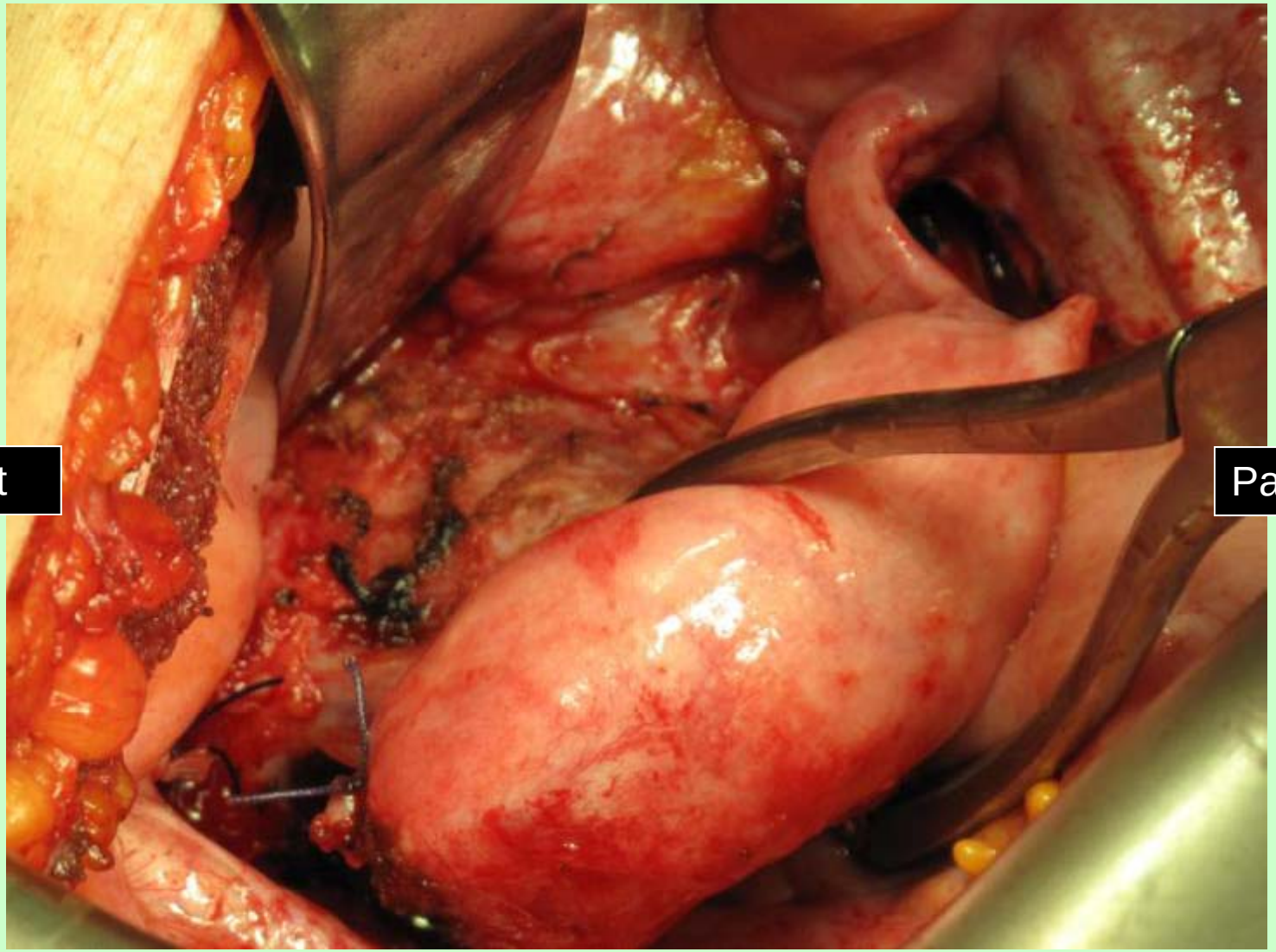

Surgery : Abdominal Trachelectomy

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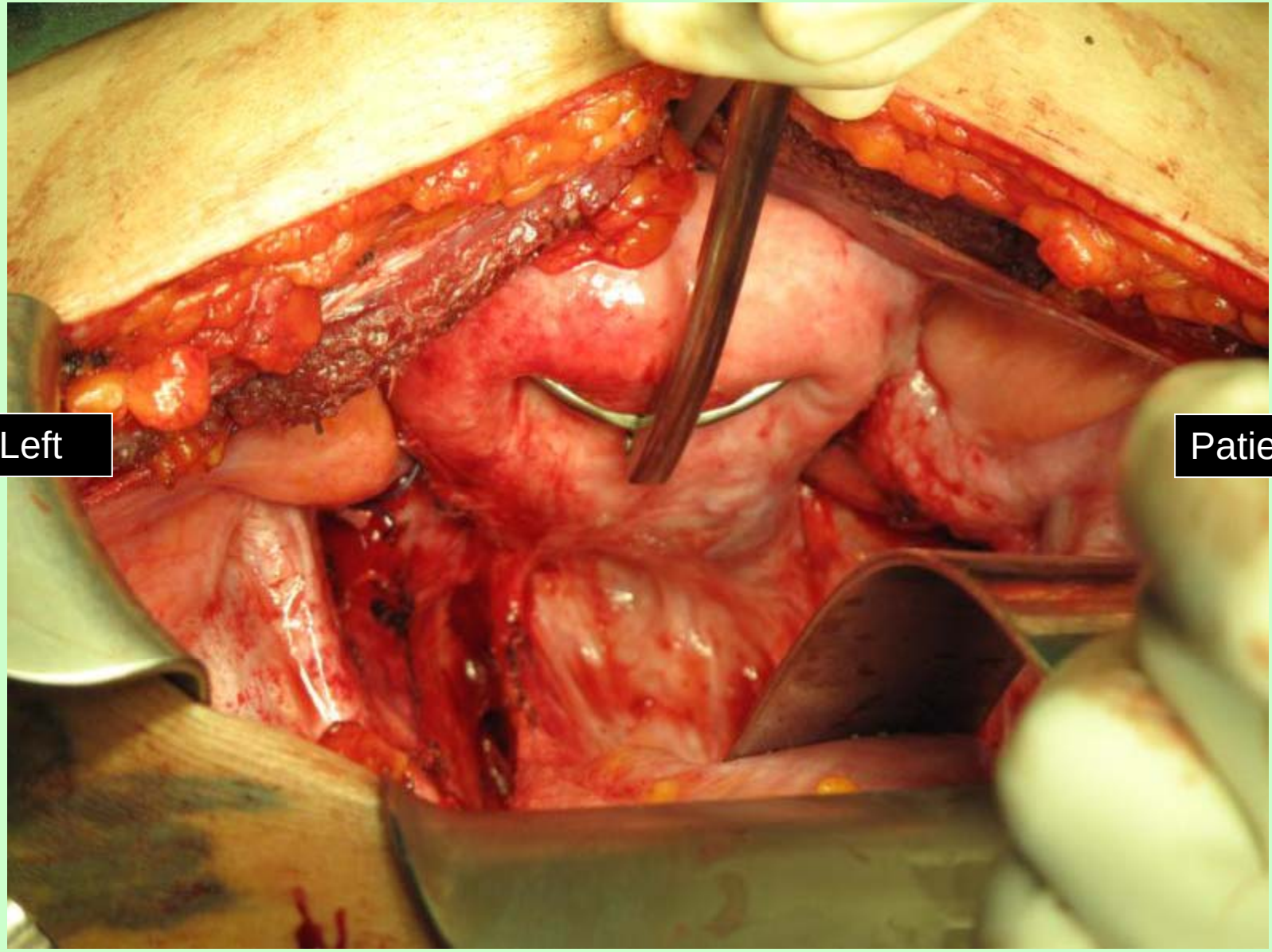

Surgery : Abdominal Trachelectomy

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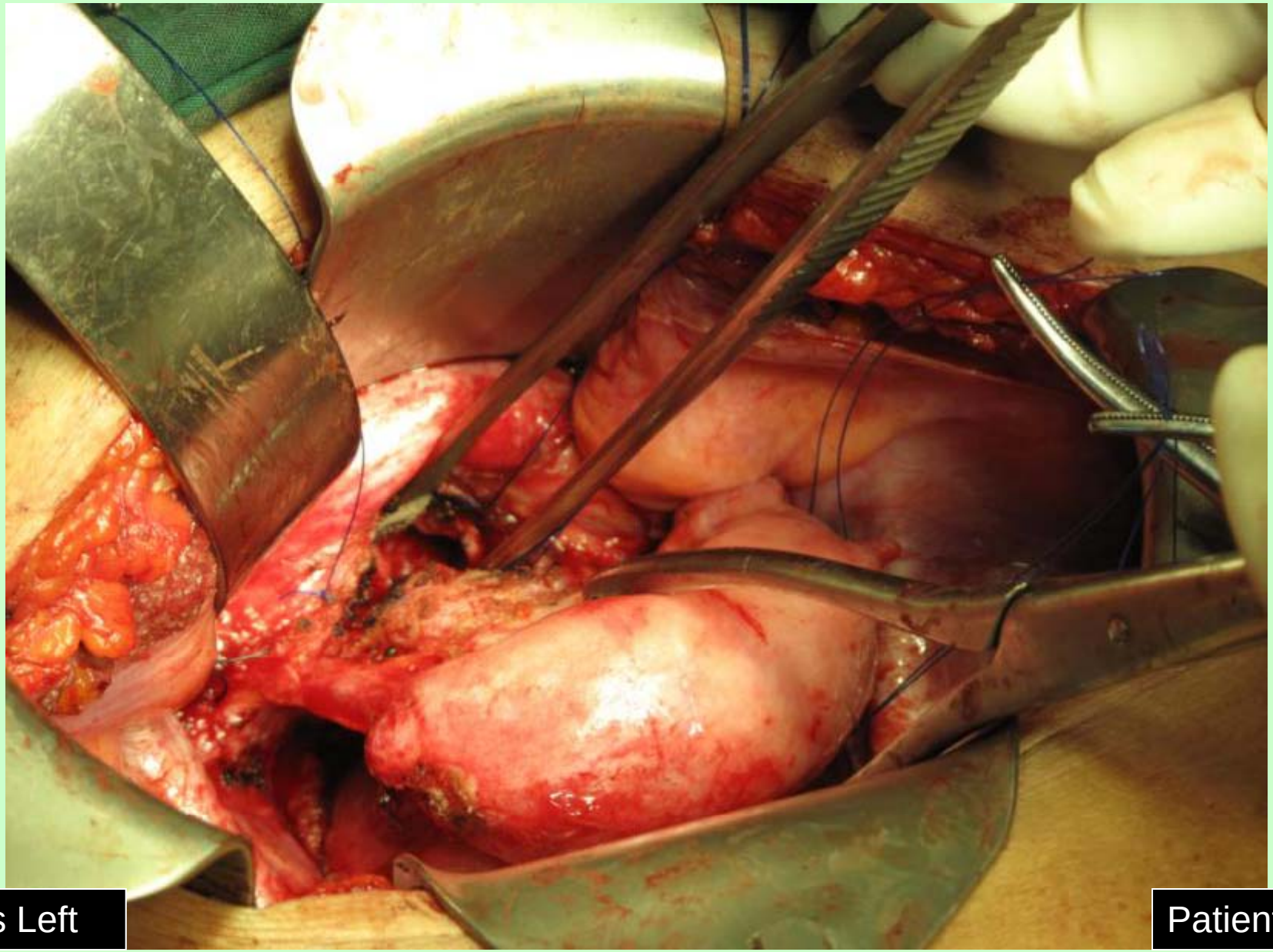

Patient's Left

Patient's Right

Surgery : Abdominal Trachelectomy

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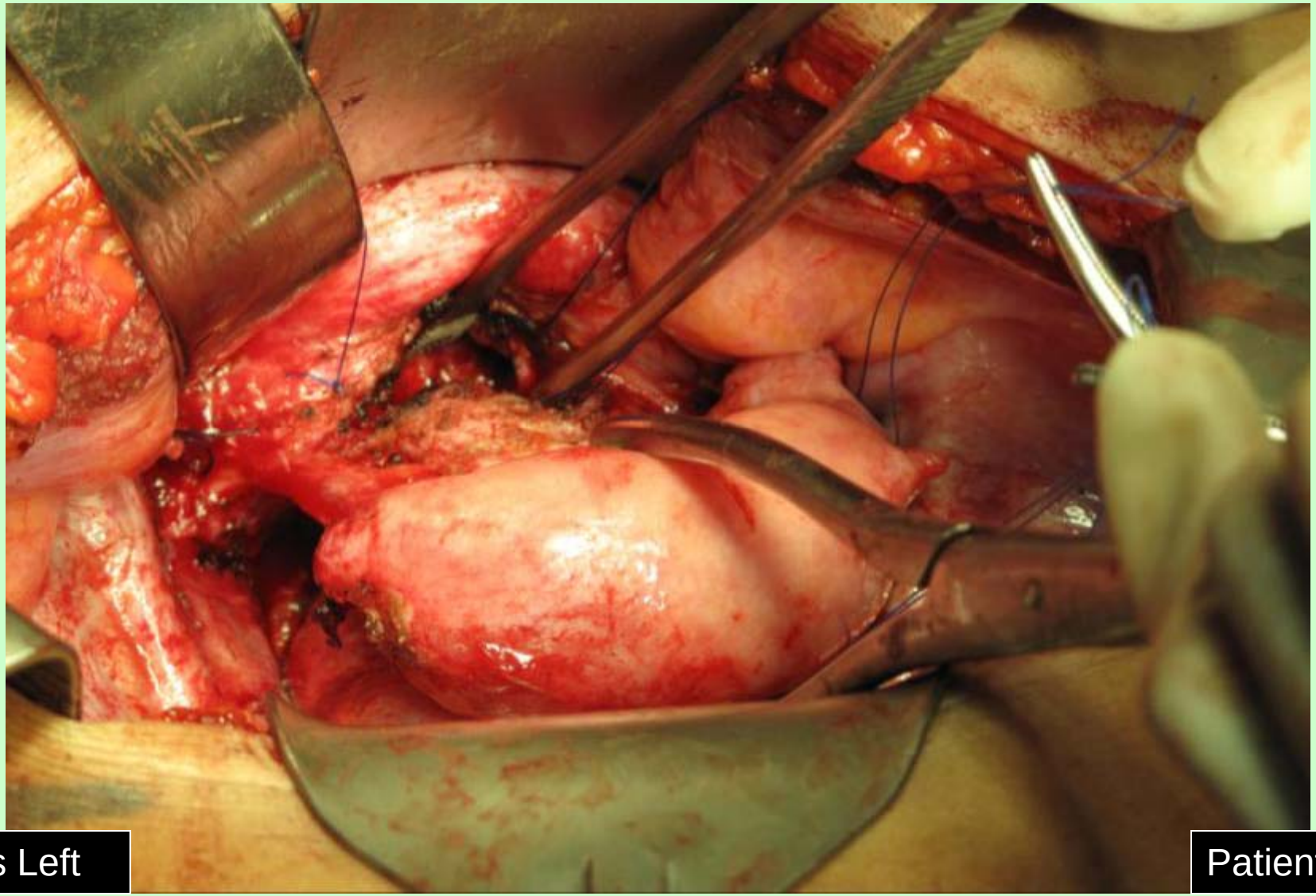

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Surgery : Abdominal Trachelectomy

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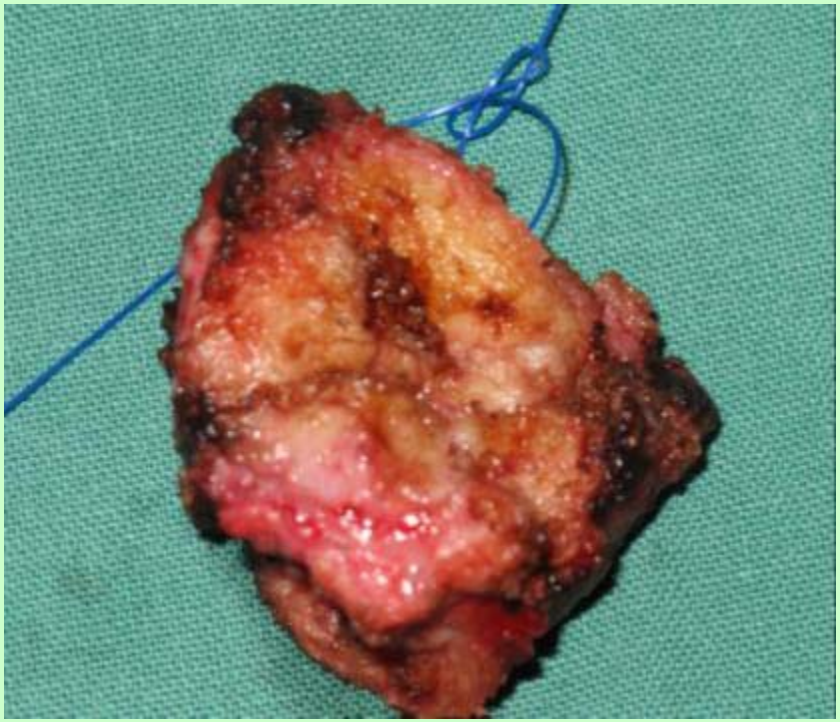

Surgery : Abdominal Trachelectomy

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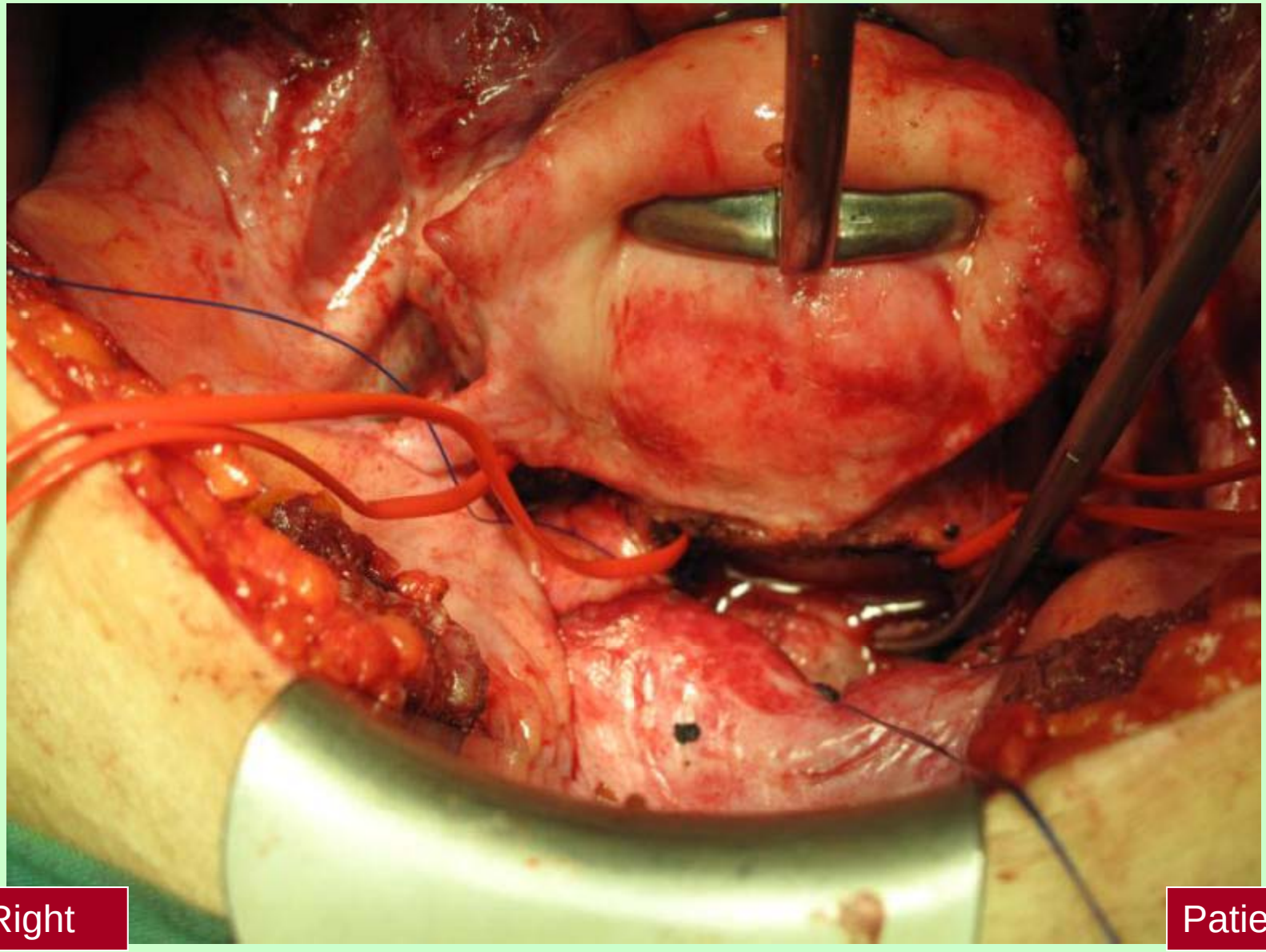

Patient's Right

Patient's Left

Surgery : Abdominal Trachelectomy

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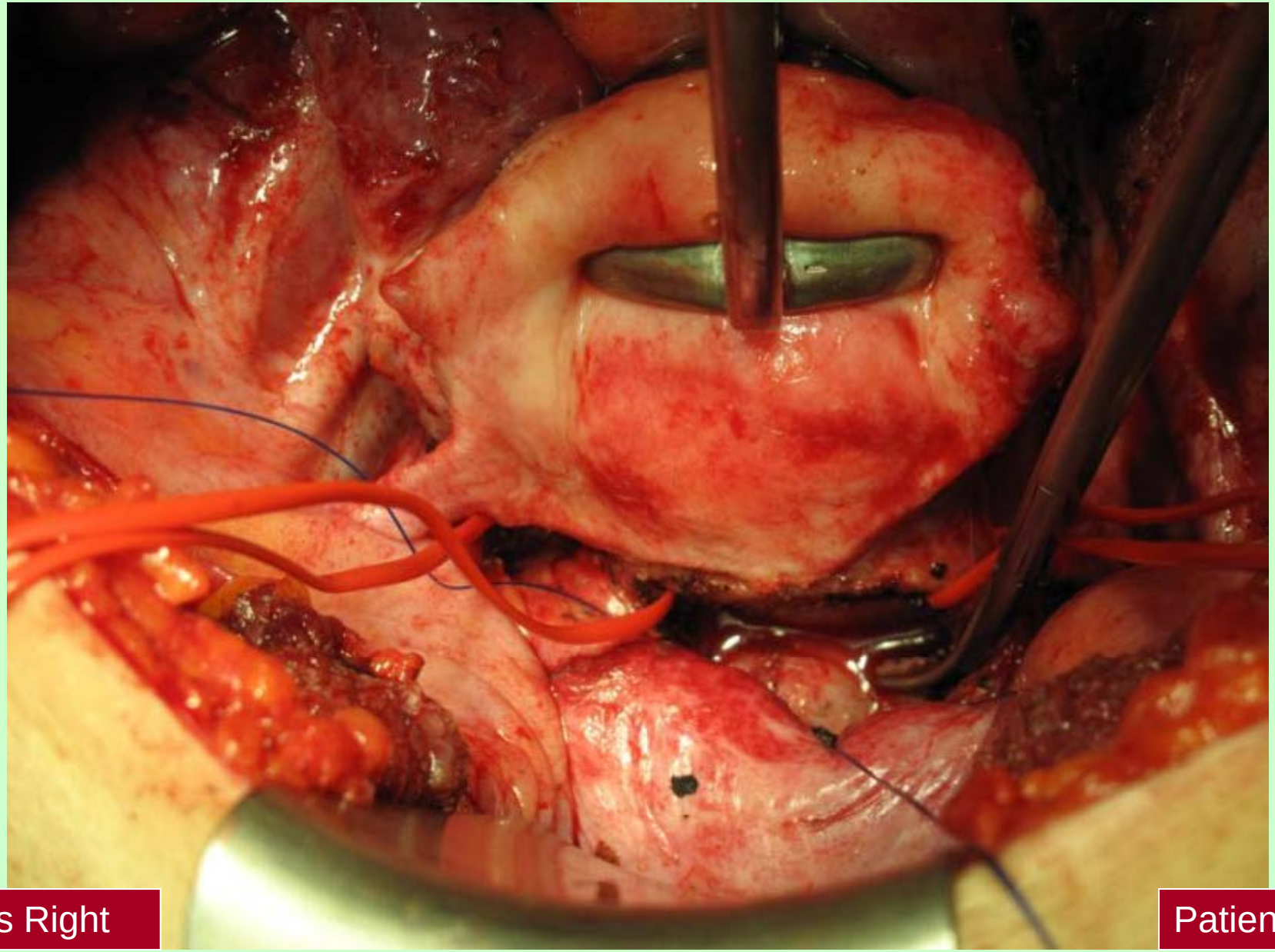

Patient's Right

Patient's Left

Surgery : Abdominal Trachelectomy

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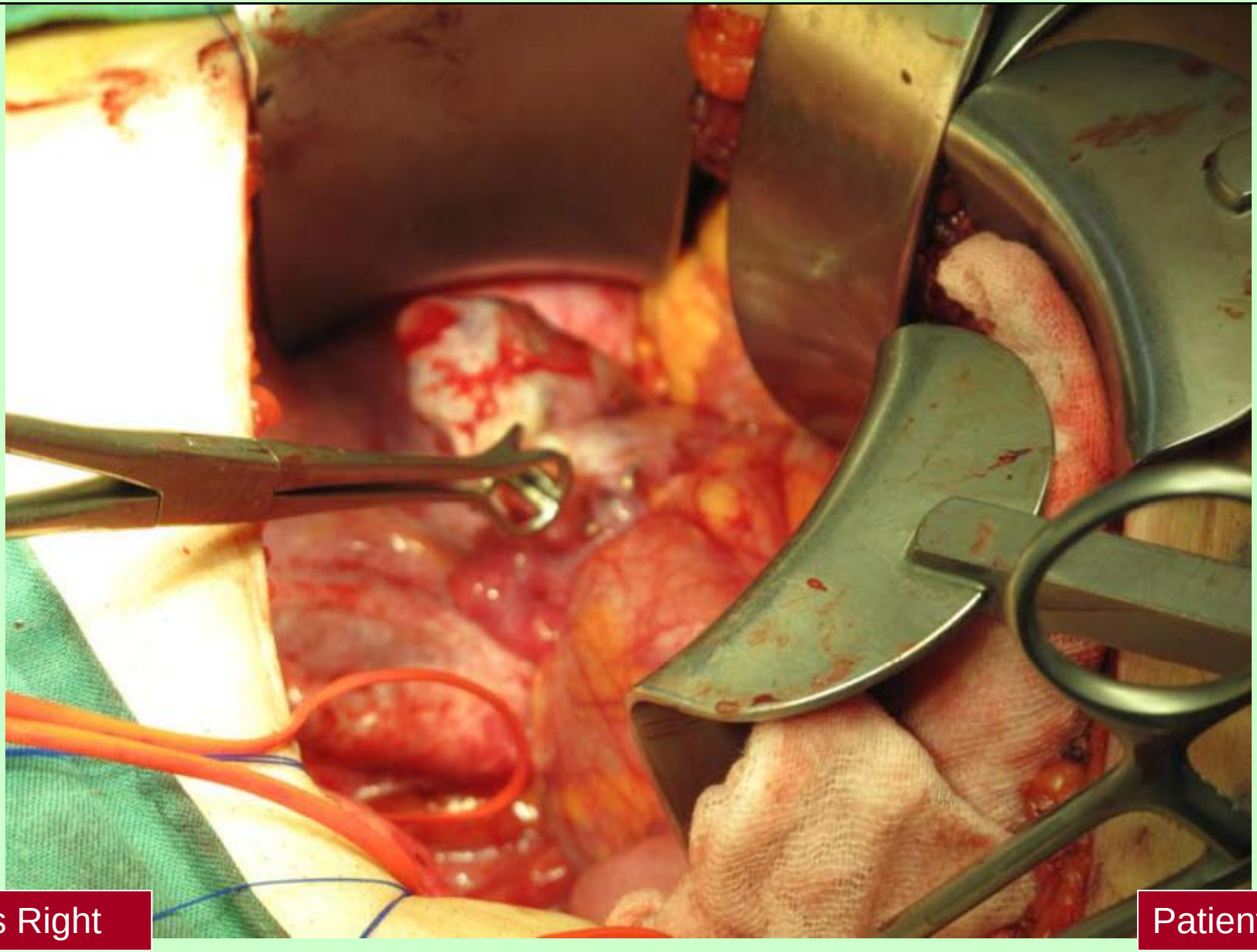

Patient's Right

Patient's Left

Surgery : Abdominal Trachelectomy

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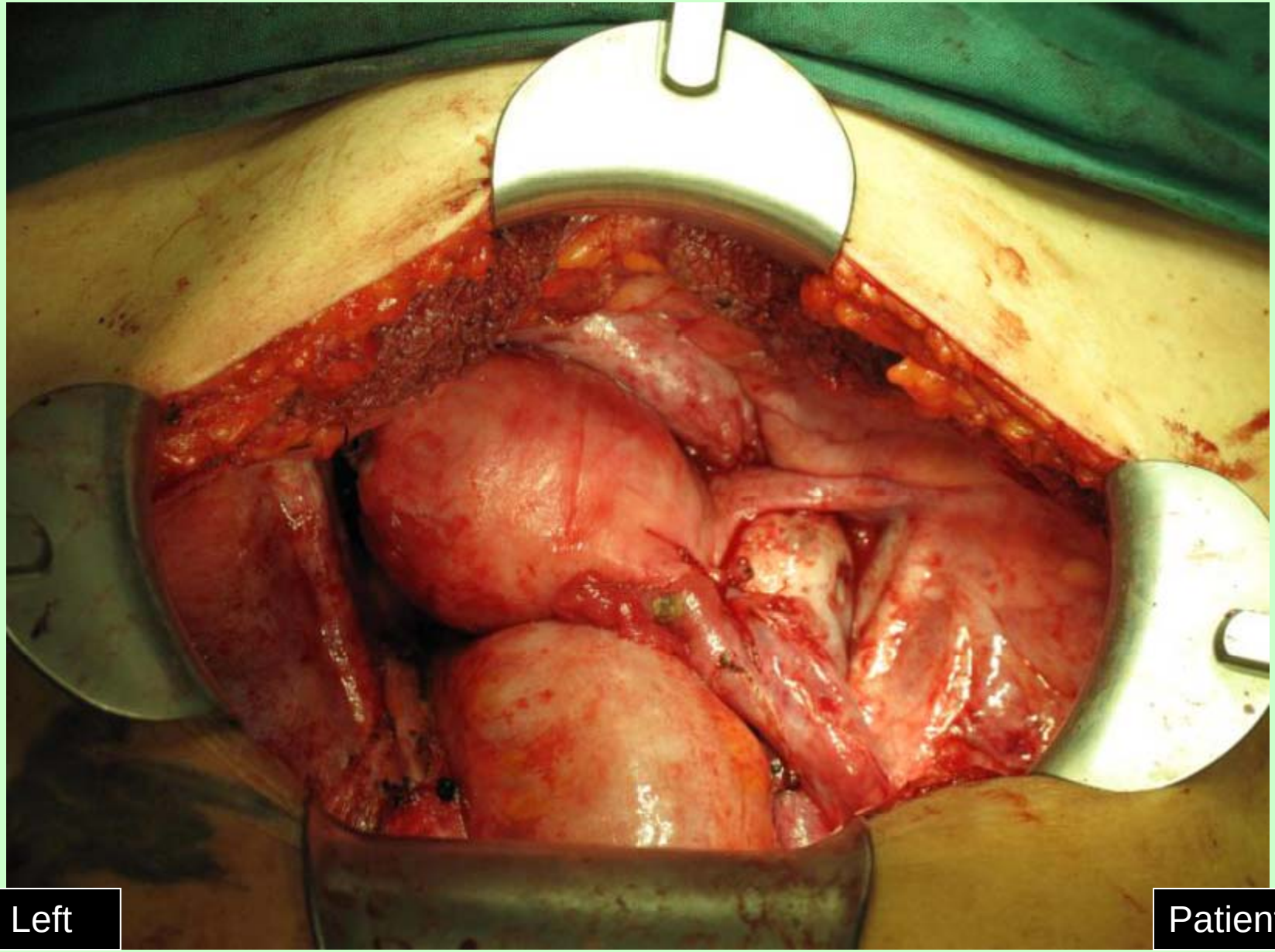

Patient's Left

Patient's Right

Surgery : Abdominal Trachelectomy

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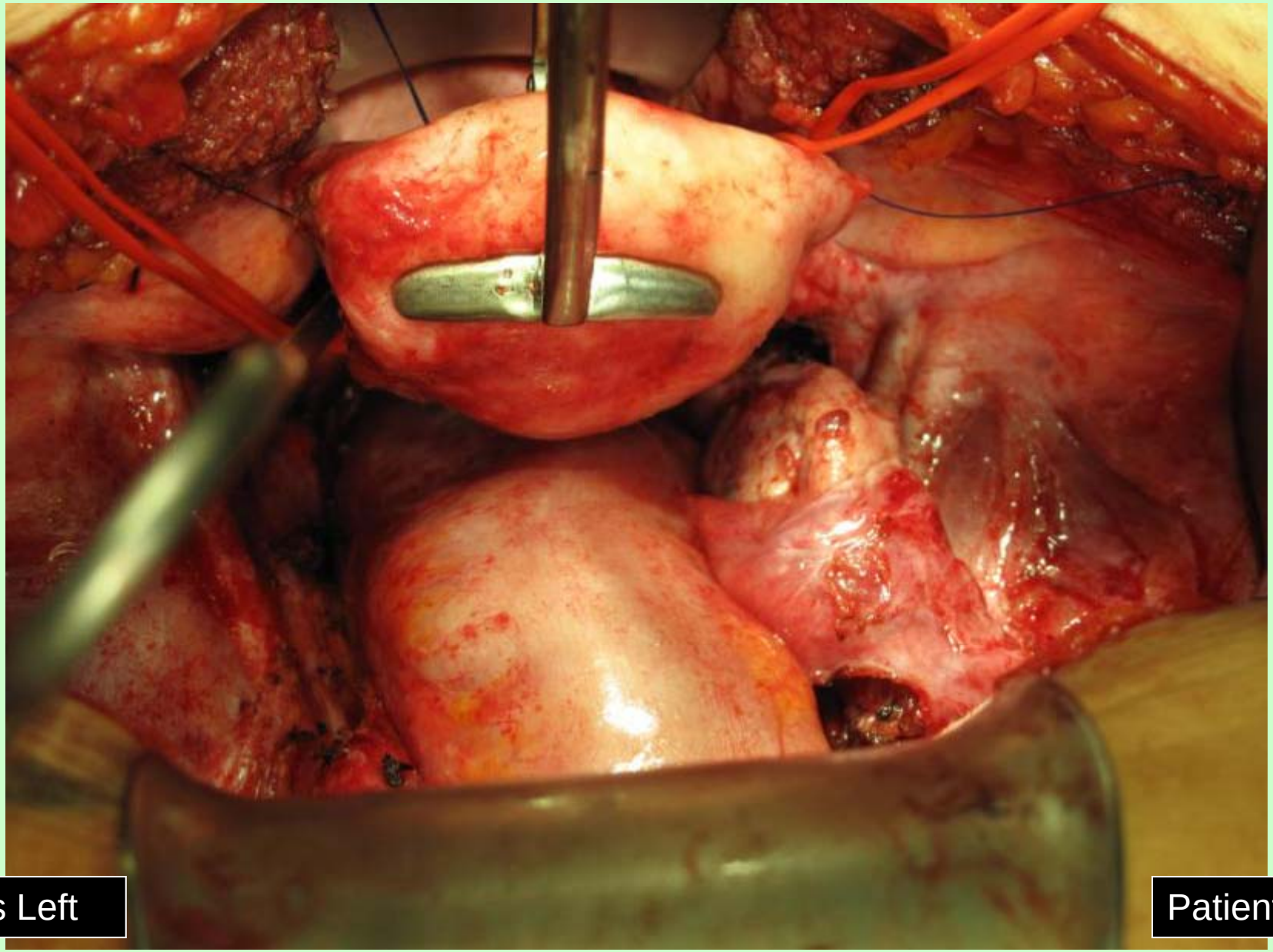

Singapore's First Abdominal Trachelectomy Preserves Fertility in Cervical Cancer Patient

Surgery Details

First reported case of such surgery in Singapore
Date : 22 April 2010
Time taken : 4.5hrs
Hospital Stay : 4 days

1. Disease cervix was removed in total with good margins of tissues.

2. Blood supply to the uterus was preserved.

3. Patient Menstruated on Post-operative Day 10.

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2. Surgery : New Surgery

Sentinel Node in Cervical Cancer - Can It Replace Lymphadenectomy?

FIGO 2009 – Cape Town

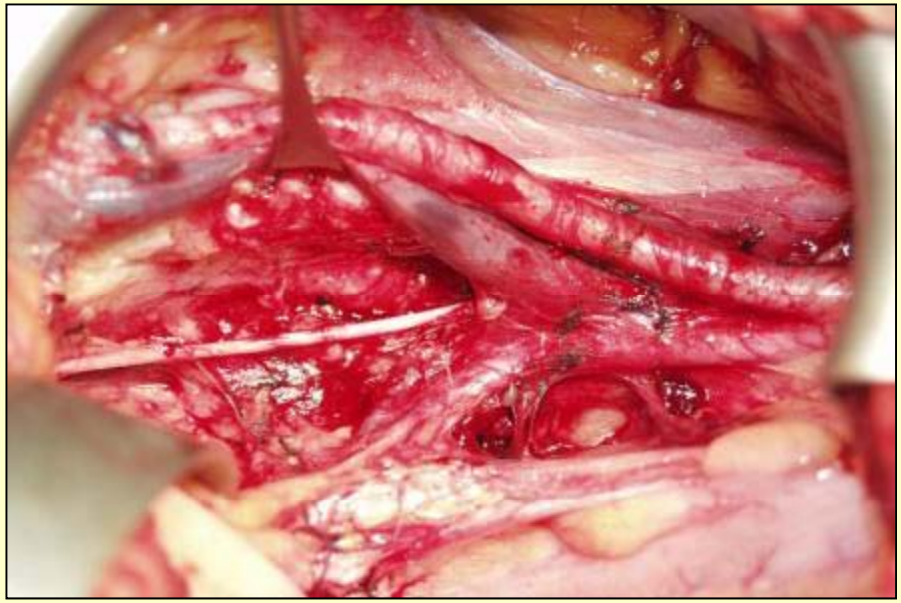
Eng-Hseon, TAY

Singapore

Introduction

Sentinel Lymph Node in Cervical Cancers

1. Early Cervical Cancer undergoing surgical treatment show nodal disease : Up to 1 in 5 patients.
2. Lymphadenectomy involves : Advanced surgical skills; Longer surgery & Potential Morbidities and Loss of defensive immunological role of the lymphatic system against cancer.



Introduction

Sentinel Lymph Node in Cervical Cancers

3 Not performing Lymphadenectomy :

- Residual Nodal Disease may be left untreated – consequent spread and fatality.

4. Question :

Can we predict the nodal status without performing a full lymphadenectomy in Cervical Cancers ?

Conclusions:

Sentinel Lymph Node in Cervical Cancers

1. SLN is useful in identifying most of the patients with nodal metastasis, thereby omitting surgery in approximately up 10% - 15% of patients.

2. While majority of positive nodes have been idenified,
   Dilema remains unresolved for patients with negative SLN

False Negative : 0% - 50%

Micro-mets unresected

Would our patient accept this ?

Would we accept this ?

Progress in Gynaecological Cancer Treatment

4. Introduction of HPV vaccines would reduce Cervical cancers, CINs and related HPV-diseases within the next 20 to 30 years.

Cervical Cancer Prevention

NORMAL

Subclinical HPV Infection

CIN

CANCER

HPV Vaccines

Last 5 Years

Pap Screening

> 50 Years

The Unfolding HPV Vaccines Story

Before 2002 2002 - 2005	- Clinicians have hardly heard about HPV Vaccines - Starting to hear about HPV vaccines being trialed
At Introduction 2006 – 2007	- Launches of HPV Vaccines - Extensive Education of Clinicians & Users
2007 – 2008	- Competing New Data Releases - Use of Vaccines spreading world-wide
2008 – 2009	- Clinicians' awareness much better and increasing - Users' awareness still poor - Confusions : Choice; Safety; Durability; Programs
2010	- Consolidation of Data & Clarity - Focus on Public awareness & Delivery
Next	- ? New Vaccines - ? New Cycle

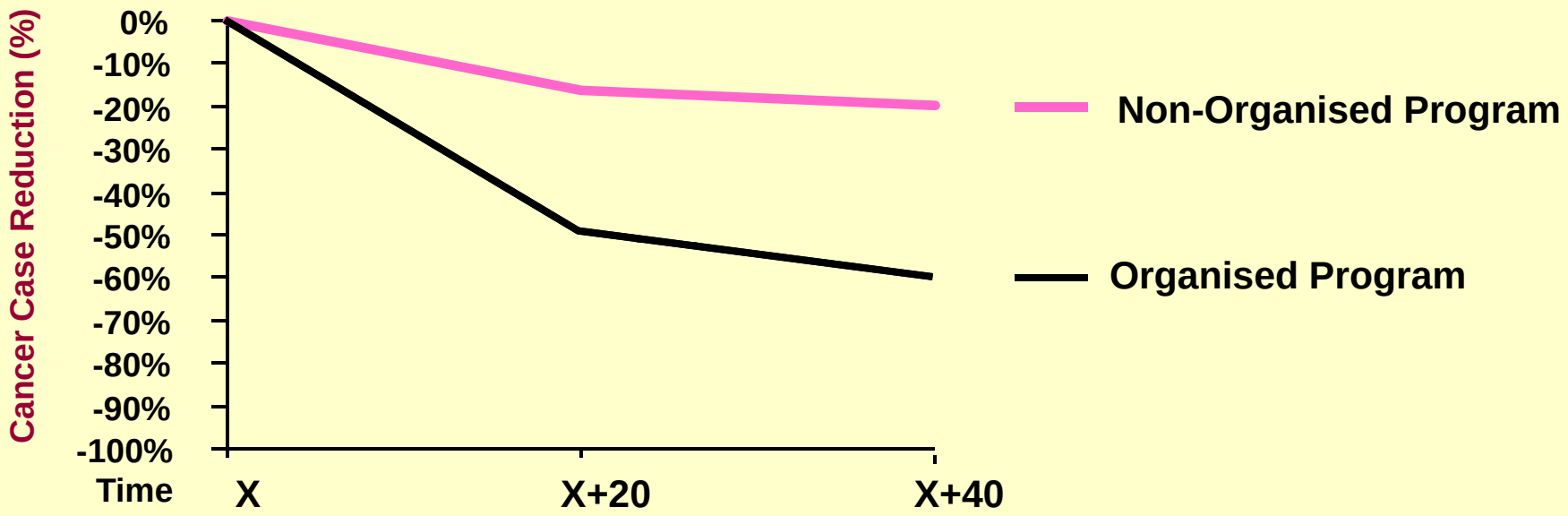
The Unfolding HPV Vaccines Story

GARDASIL™[1]	Cervarix™[2]
1. Proof of Principle Study	1. Protocol 001 / 007
2. FUTURE I	2. PATRICIA TRIAL 008
3. FUTURE II	3. Protocol 012, 014 – Immunobridg
4. FUTURE III	4. Protocol 013
5. Protocol 019 (Male)	5. Protocol 015
6. Adolescent Immunogenicity *	6. Protocol 010
7. Sentinel Cohort – Nordic Registries	7. Etc…
8. Etc…	
1. PP Population	1. ATP-E Cohort
2. ITT Population	2. TVC
3. MITT Population	3. TVC- Naïve

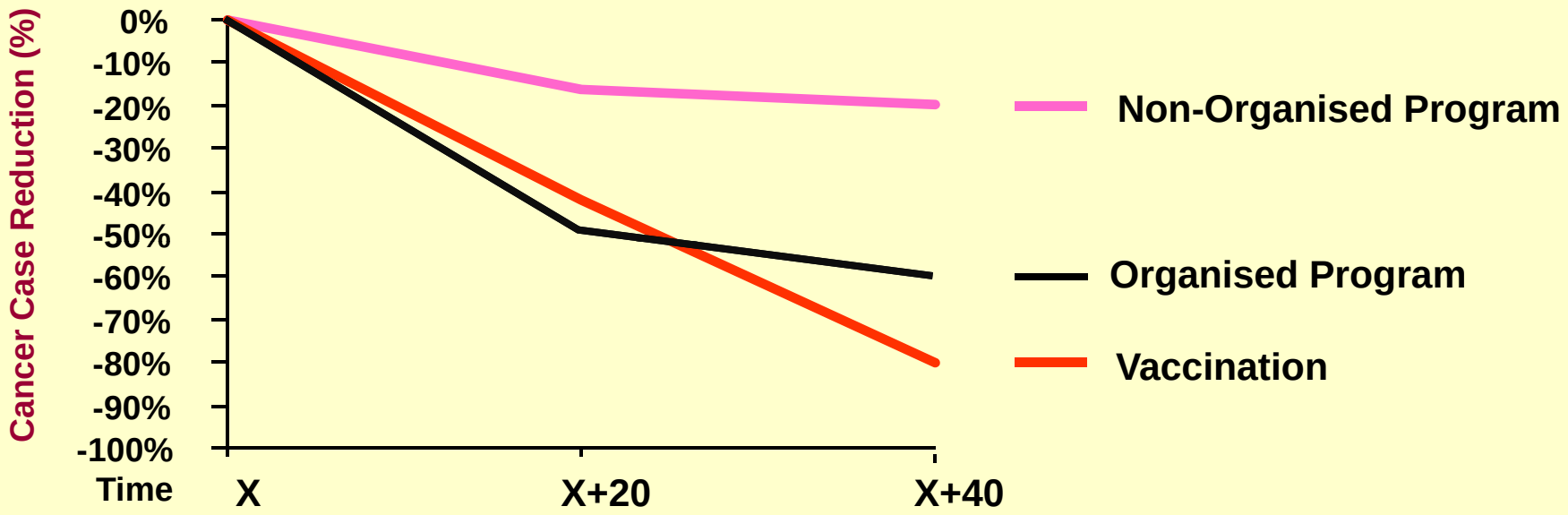
HPV Vaccines Development – Progress & Milestones

Before 2002 2002 - 2005	PrelimTrials Proof-of-principle study	Trials
At Introduction 2006 – 2007	Efficacy	Safety
2007 – 2008	Extended Protection	Mid-adult women
2008 – 2009	Sustained Immunity	
2010	Consolidation of Results	More Indications
Next	Long-Term Sustained Efficacy New Vaccines	

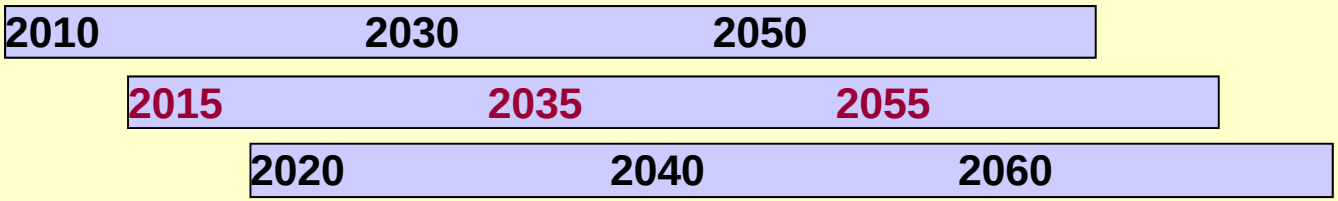
Cervical Cancer Prevention



Cervical Cancer Prevention



Requires about 20 - 40 years



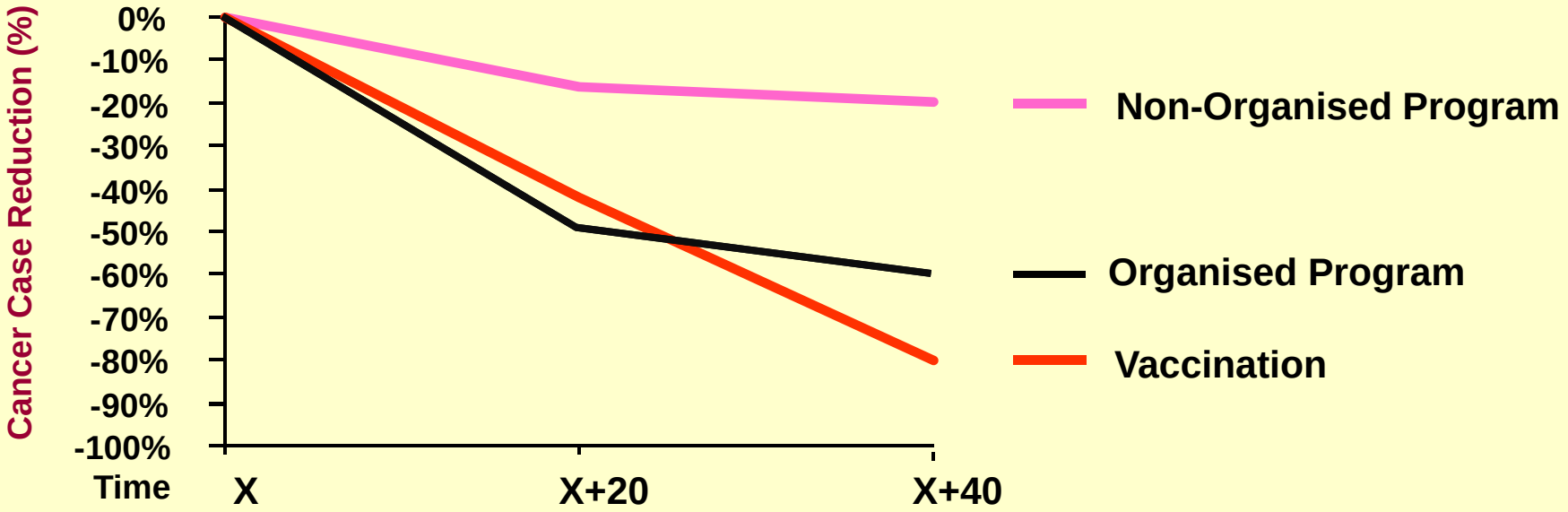
EH TAY, Singapore

Cervical Cancer burden reduced by HPV vaccination

Before the Cervical Cancer burden is significantly reduced.

Cost of cervical cancer prevention will escalate.

1. Vaccination Program
2. Cervical Screening Program



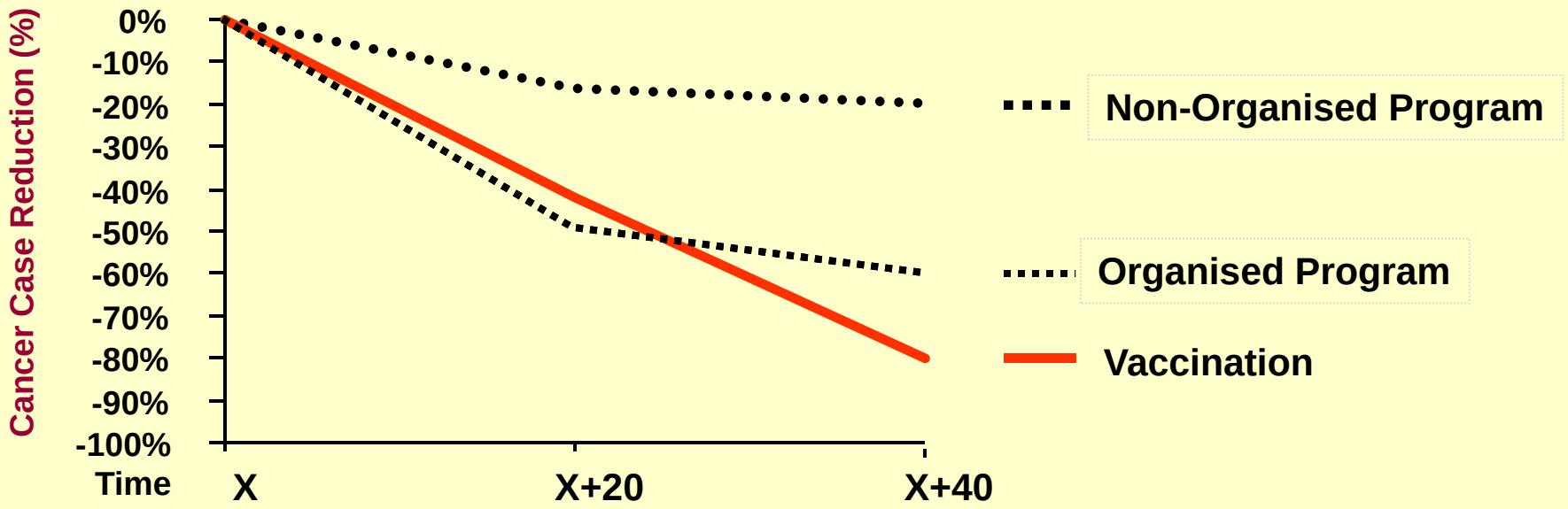
EH TAY, Singapore

Cervical Cancer burden reduced by HPV vaccination

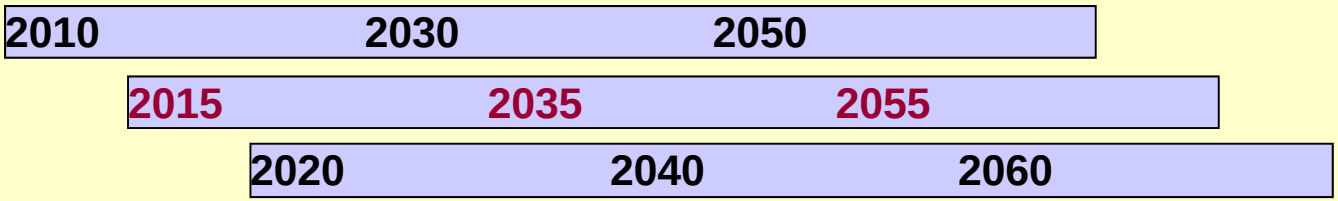
When the Cervical Cancer burden is significantly reduced :

1. Cost-effectiveness of Pap Smear Screening will be questioned.
2. Population Pap screening may be replaced by HPV screening.
3. Cytopathologists may be less competent.
4. Colposcopy Service demand will be reduced.
5. Treatment for Cervical Cancer will be reduced.

Cervical Cancer Prevention



Requires about 20 - 40 years



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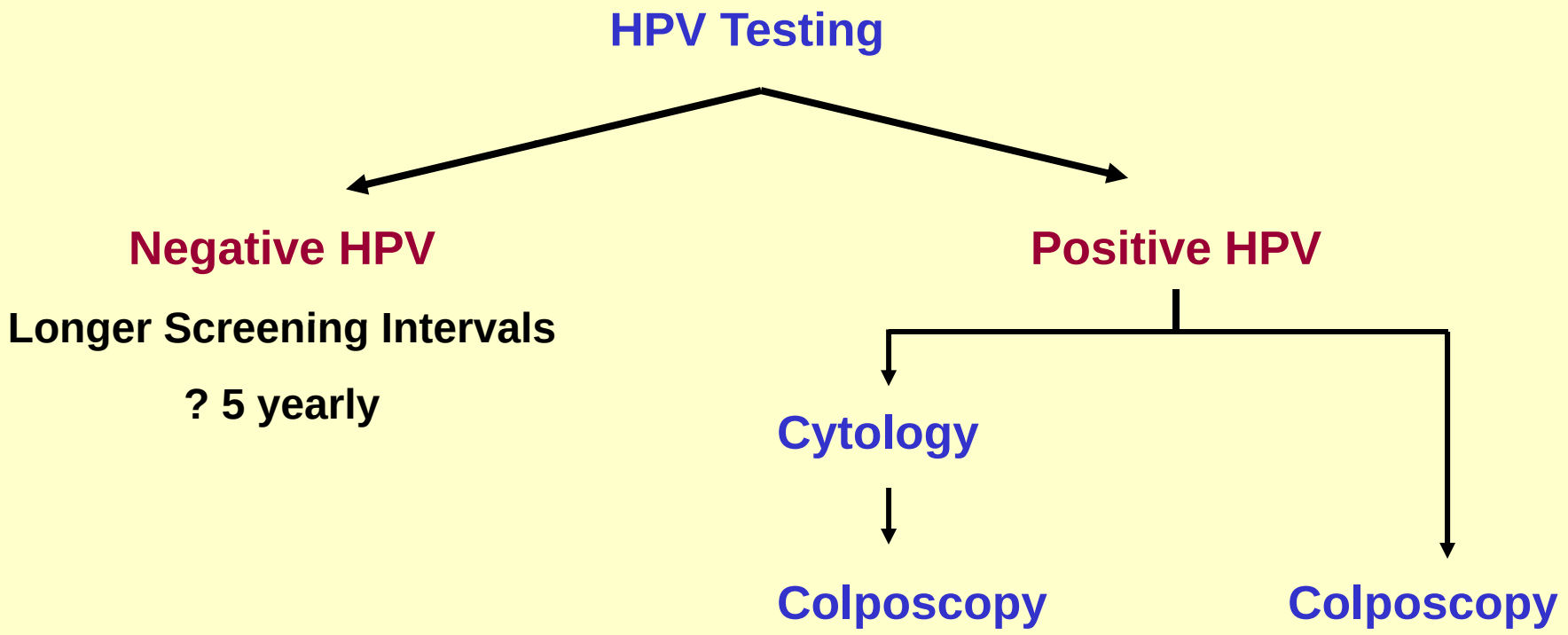
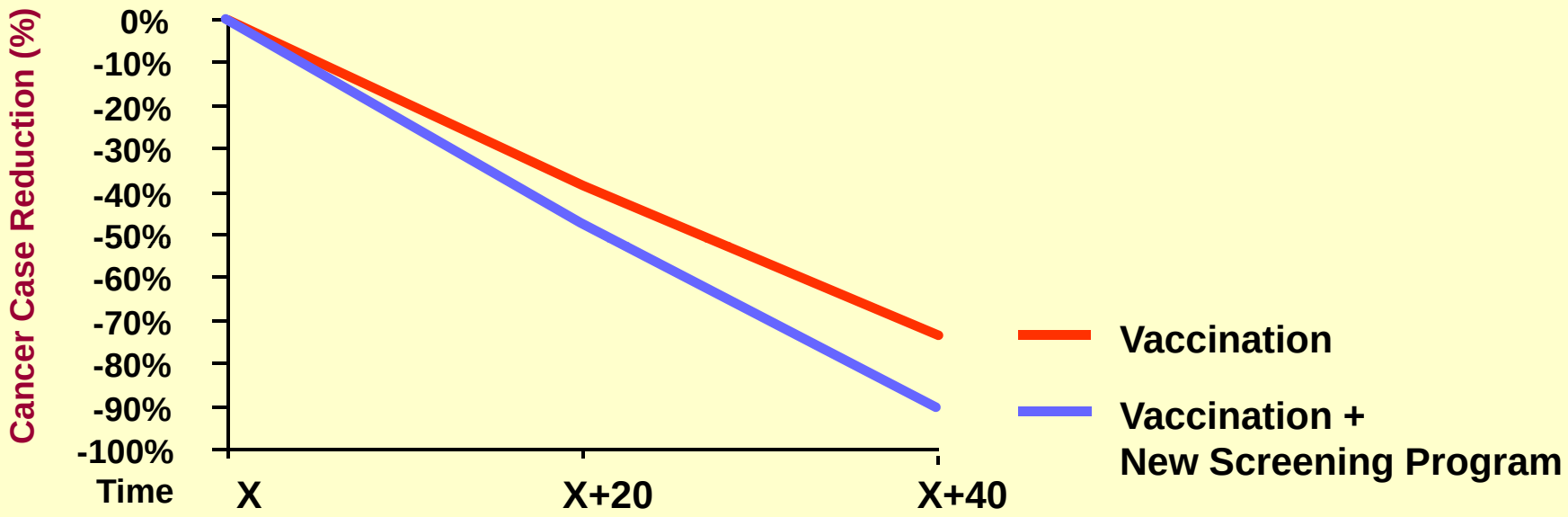
Future Cervical Screening

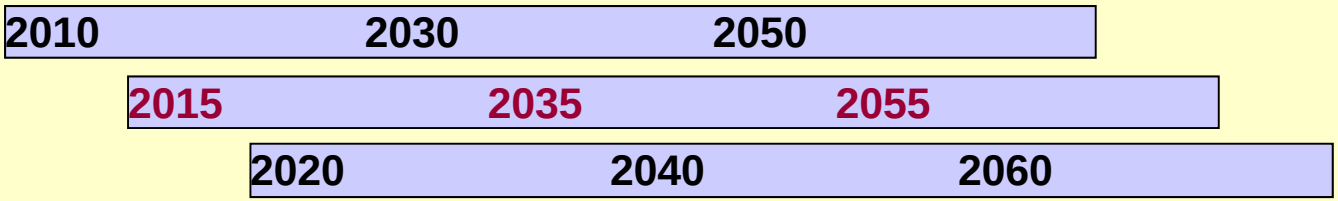
Likely Screening Program Model



Cervical Cancer Prevention in Singapore



Requires about 20 - 40 years



EH TAY, Singapore

Progress in Gynaecological Cancer Treatment

Eng-Hseon Tay

Singapore

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