Embolization in Obstetrics & Gynaecology

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THE SHARD


PA

Embolization

IS - a percutaneous, transcatheter radiological technique to block/occlude a vessel/vascular bed. Is a minimally invasive technique usually performed via common femoral approach under local anaesthesia & sedation

BLEEDING,TUMOURS,VASCULAR MALFORMATIONS

Embolization for Bleeding

- Chest – Bronchial
- Lower GI tract
- Liver/Spleen
- Kidney
- Pelvis & Uterus
- Musculoskeletal & Vascular
- Epistaxis
- NB.ALTERNATIVE TO EMBOLIZATION IS MAJOR SURGERY

Embolization in Obstetrics & Gynaecology

- Uterine fibroids – Chronic condition/ Elective procedure. Common

- Bleeding – Acute condition/Emergent procedure. Uncommon but can have serious mortality/morbidity

UAE in O & G Emergencies

Unexpected Emergent Cases

- PPH - Uterine atony/Tears
  - Abnormal placentation
- Post-Abortion/Ectopic
- Post-Hysterectomy
- Uterine AVM/Gestational trophoblastic tumours
- Gynaecological malignancy
- Fibroids - acute bleeding

Embolization for Bleeding in Obstetrics

- Unexpected emergent case (rare)
  - Post-Partum, Post-Caesarian haemorrhage
- Planned high-risk case (v rare)
  - Placenta praevia/accreta
  - Large anterior fibroid

Embolization for Persistent PPH: Before or After Hysterectomy

- 20,215 births over 4½ yrs
- 636 PPH (3.1%)
- 9 Embolizations (1.4% of PPH)

  - 5 Embolizations after Hysterectomy had greater blood requirement, longer ICU stay & more complications cf. 4 who had embolization alone

(BJOG 2004 111: 880-884)

Daily Mail
1999 & 2002

Placenta
accreta

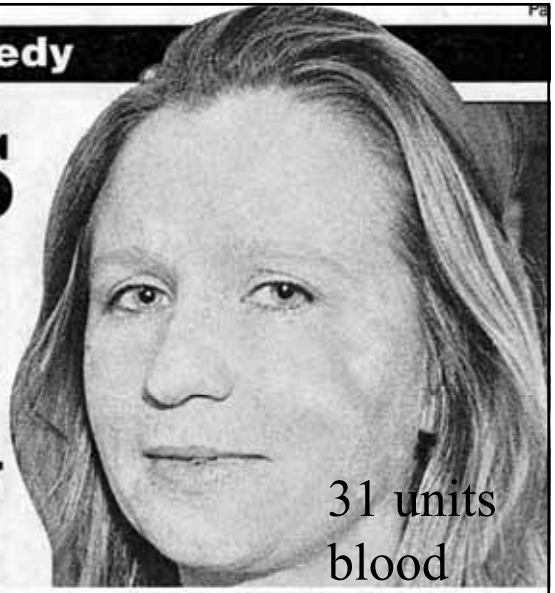
HUSBAND TELLS HOW PREGNANCY TURNED TO TRAGEDY

Doctors 'could have saved her but my lovely wife is dead'

ily Mail, Tuesday, April 27, 2004

An emergency operation that ended in tragedy

Mother, 34, dies after Caesarean to save her baby



31 units blood

Daily Mail, Thursday, July 25, 2002

Children to sue hospital over death of mother

Placenta accreta
65 units blood

Post-partum Haemorrhage
Current Management

- Resuscitation
- Exclude local trauma
- Exclude retained products
- Atony? - Oxytocics/Prostaglandins
- Uterine packing/massage (+ anaesthesia)
- Surgical options (+GA) N.B. Coagulopathy
- Hysterectomy

Postpartum/Post-Caesarian Haemorrhage – Embolization Results

- 67 women.19 reports – 24 DIC
- 65/67 successful (mainly Gelfoam)
- 49/49 PPH successful – 2 2nd procedure
- 16/18 Post-CS successful
- Complications - 5/67 (2 vascular.3 abscess)

(Vedanham Am.J.Obs.Gyn 1997;176:938-48)

Uterine Artery Embolization – The Role in Obstetrics & Gynecology

- Review by OBGYN - Syracuse NY
- 22 papers – (1979-99) 1-27 cases
- Total 138 cases PPH
- 98.9% Successful

(Clinical Imaging 25,4,288-295.2001)

Royal College of Obstetrics (RCOG) & Gynaecology guidelines on the management of PPH written in conjunction with the Royal College of Radiologists (RCR) and the British Society of Interventional Radiologists (BSIR), June 2007 stated -

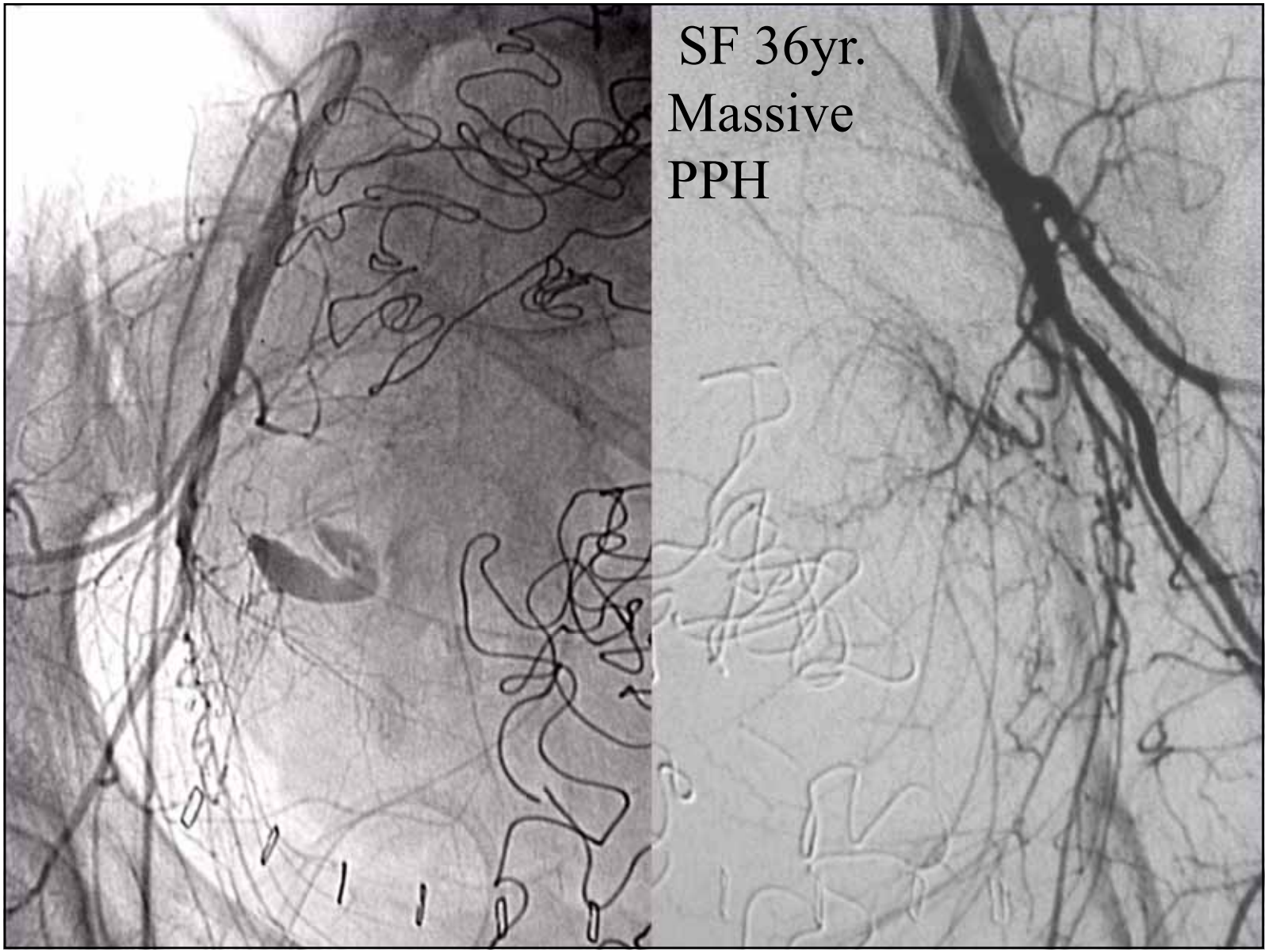
'The purpose of this guidance is to urge all obstetric units to consider early or prophylactic interventional radiology as an important tool in the prevention and management of postpartum haemorrhage.'

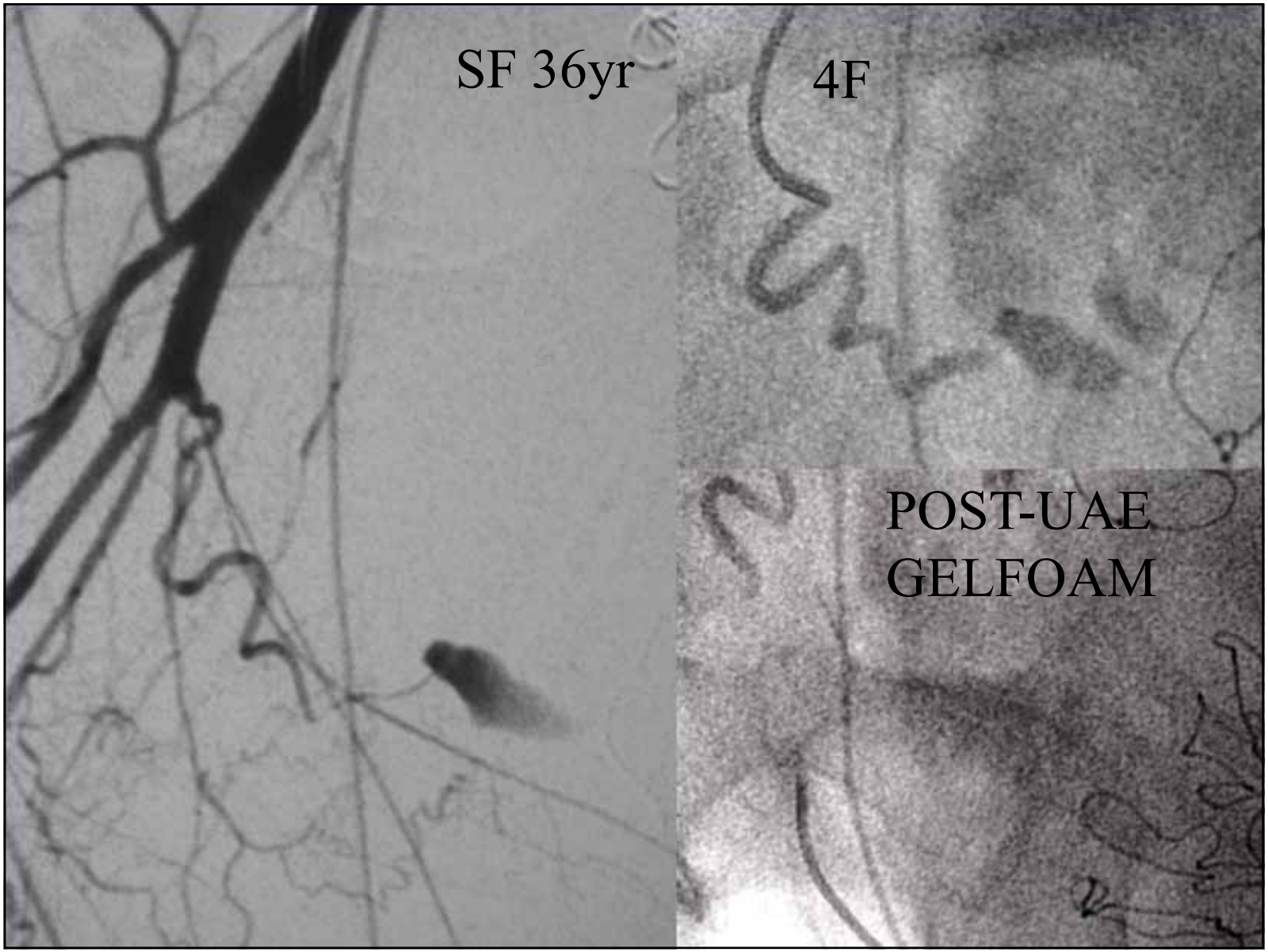
'NHS trusts should have in place protocols that include the use of interventional radiology in the management of obstetric cases where postpartum haemorrhage is likely.'

'…embolisation can prevent major blood loss, obviating the need for transfusion and hysterectomy. Thus potentially reducing the need for intensive care and decrease maternal mortality and morbidity.'

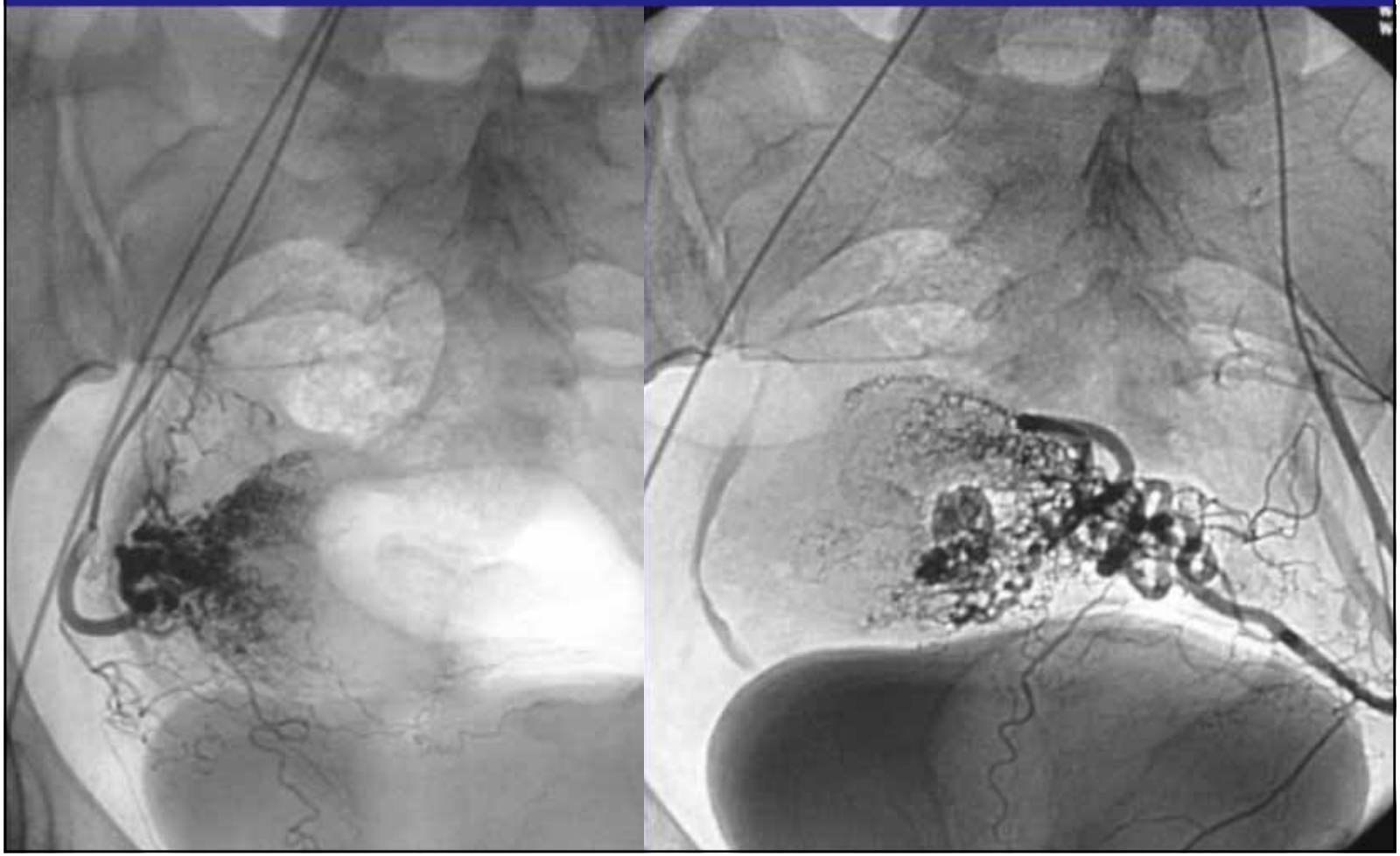
PPH/Post-Caesarian Haemorrhage
UAE - Technical

- 24/7 Interventional service/angiographic suite
- Femoral artery access – 4F
- Selective Internal Iliac arteriography
- Extravasation on angios not necessary
- Embolize Uterine artery or anterior divisions
- Gelfoam particles


SF 36yr.
Massive
PPH


SF 36yr
4F
POST-UAE
GELFOAM

AC 22yr – delayed miscarriage.v.heavy bleeding PV. Neg PT
US abnormal vascularity. Hypervascularity – L>R
Bilat UAE with PVA500



Investigation into 10 maternal deaths at, or following delivery at, Northwick Park Hospital, North West London Hospitals NHS Trust, between April 2002 and April 2005

Healthcare Commission report - Aug 2006. pp 1-120

P108 - Recommendations

As most of the actions arising from the previous report and the imposition of special measures have now been implemented or are in the process of being implemented, our recommendations are limited to the following:

National recommendations

• **The Healthcare Commission realises that, due to a shortage of suitably trained radiologists, it is not possible to provide full time cover for interventional radiology in all obstetric units. However, given the potential to save the lives of patients who have catastrophic postnatal bleeding, trusts with delivery units should, where feasible, engage with their neighbouring trusts to discuss the formation of networks. THE AIM SHOULD BE TO PROVIDE AN EMERGENCY INTERVENTIONAL RADIOLOGY SERVICE THAT IS RESPONSIVE TO PATIENTS' NEEDS WHEREVER AND WHENEVER THEY ARISE.**

• All NHS trusts providing maternity services, and organisations responsible for the monitoring of the performance of NHS trusts, must ensure they have robust systems in place for the monitoring of the quality and performance of the maternity services.

Obstetric Embolotherapy: Effect on Menses and Pregnancy

- 17 pts 20-44 yrs – 7 bleeding 10 prophylactic (4 IUD)
- UA/Hypogastric embolization with gelfoam – no complications
- 5 Hysterectomy not for bleeding
- 11/12 normal periods within 2-5/12 (1 on Depot Provera)
- 11 - 3 wanting pregnancy all FTND
  - 8 contraception

(Radiology 1997;204:791-3)

UAE: an effective treatment for intractable obstetric haemorrhage

- 10 women 19-41,m.30 yrs
- 7 PPH. 3 Post-abortion/placenta accreta
- Angios - all hypervascularity extravasation 3
- 8/10 Embolization (PVA)- bleeding stopped/no surgery/no complications
- 2 early cases – 1 Hysterectomy
- Normal menstruation in all. 3/8 FTND

(Clin.Radiol.2004 59,96-101)

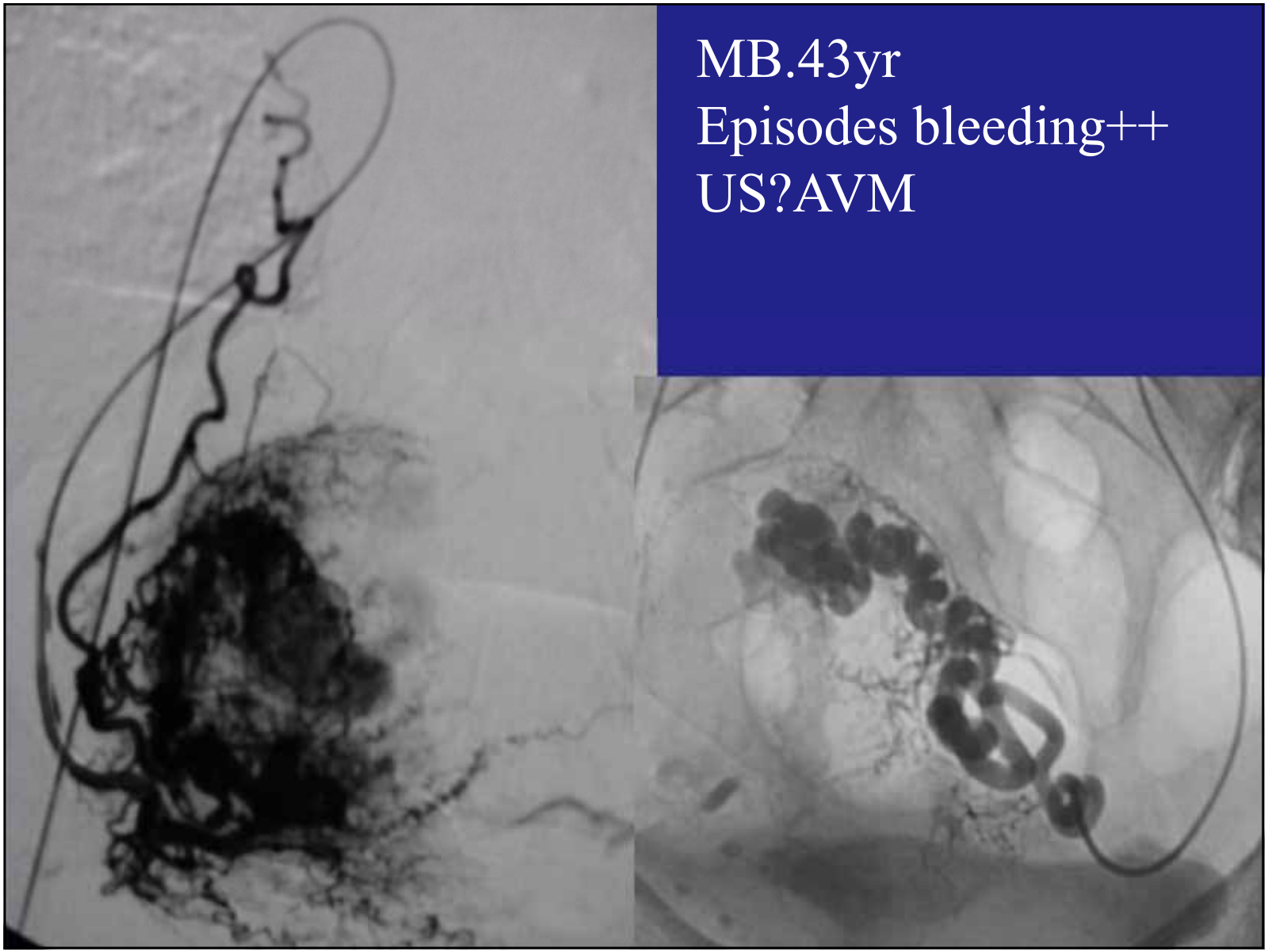
Uterine Arteriovenous Malformations - Clinical

- Rare
- Congenital vs Acquired
- Massive bleeding/Abortion
- Non-invasive diagnosis - US.MRI
- DD - Gestational trophoblastic disease
- Conventional treatment Hysterectomy

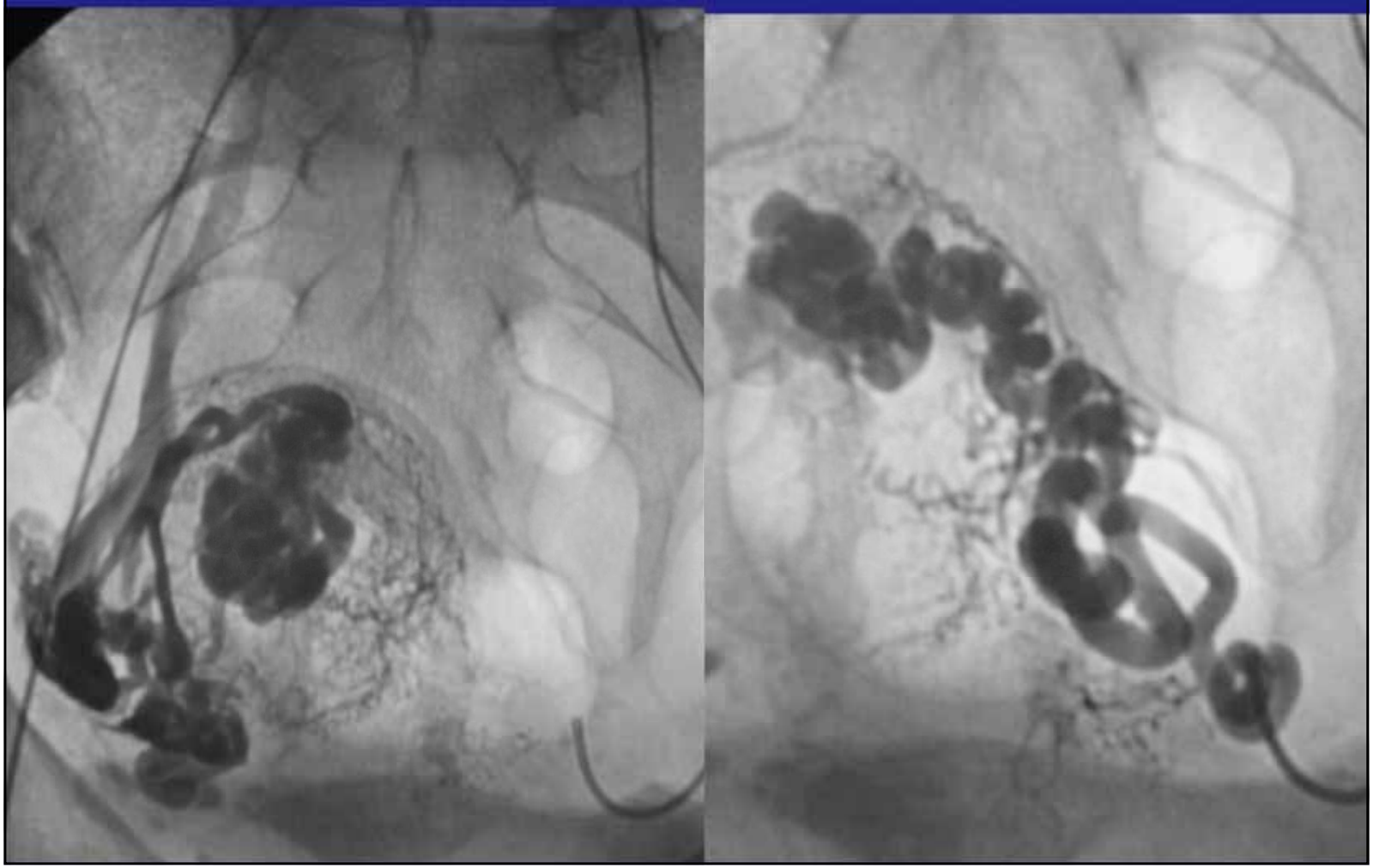
Uterine Arteriovenous Malformations - Embolization

- 11 reported cases
- Good results - no complications
- May need > 1 procedure
- Fertility appears unaffected
  - 5 pregnancies

(Clin Rad.1999;4:265-9.JVIR 1991;2:527-22)

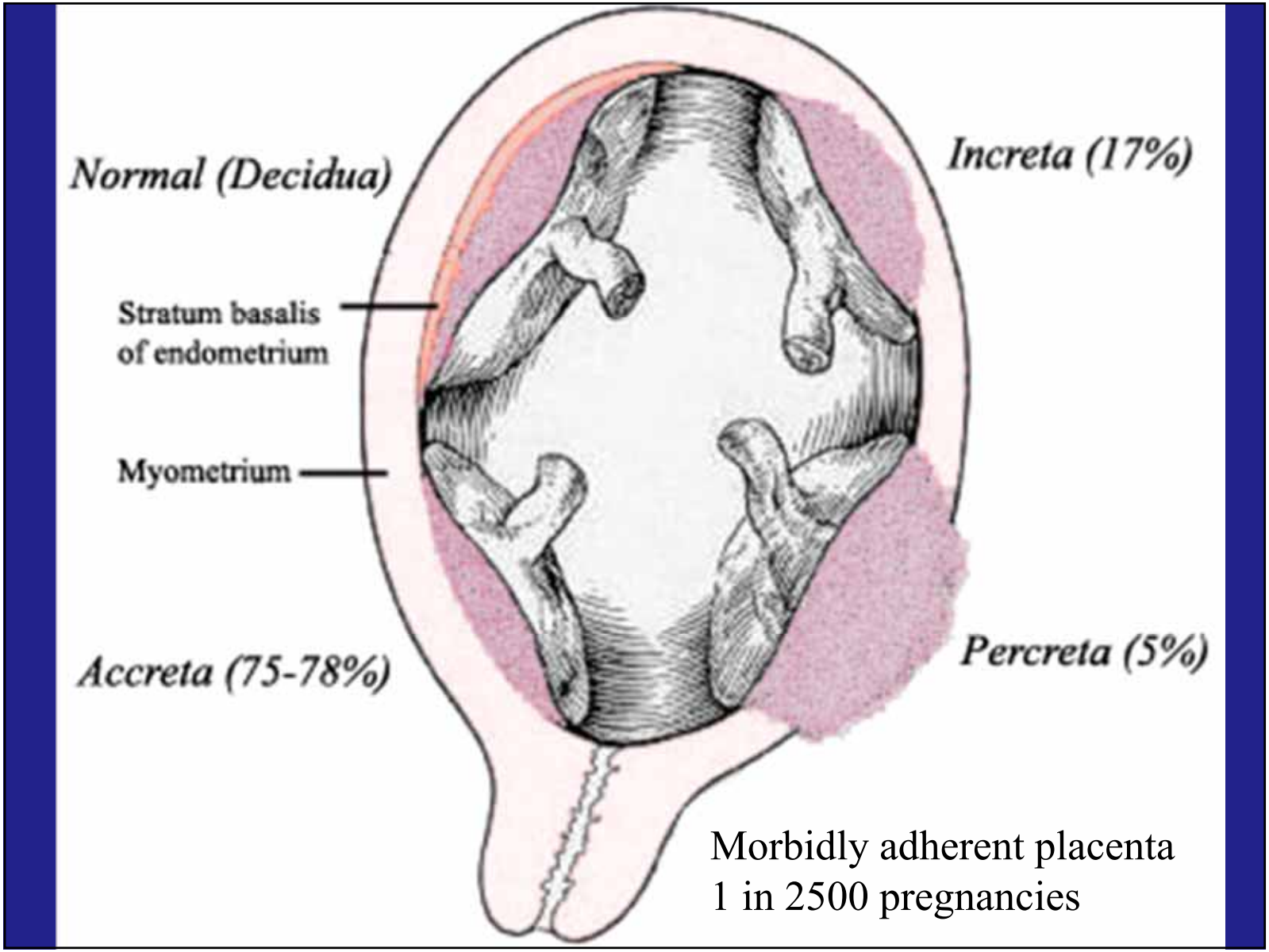

MB.43yr
Episodes bleeding++
US?AVM

MB 43yr
Embolization PVA+Gelfoam



High-Risk cases: Role of IR - Problems

- Placental ingrowth abnormalities rare but prevalence will ↑ with more caesarian sections
- Bleeding can be v severe
- To identify high-risk cases
- Availabilty of specialised US ? Role of MRI
- Combining IR and CS – best location?
- Best IR practice?
- V minimal literature



Morbidly adherent placenta
1 in 2500 pregnancies

Abnormal Placentation - Balloon Occlusion (BO) ± Embolization (E)

- Mitty. Radiology 1993 188: 183-7. 9 CS prophylactic catheterisation - 5 no embolisation
- Dubois. AJOG 1997 176:723-6

  - 2 cases. CS+CH - BO + E. Good result
- Levine. J Matern Fetal Med 1999 8:173-6

  - 5 cases 4 CH - BO only. No difference cf. historic controls
- Weeks. J Vasc Interv Radiol 2000 11:622-4

  - 1 case. CS+CH - BO only. Good result

High-risk cases: Role of IR – Possible solutions

- All in delivery suite
- All in Endovascular suite in Radiology
- Place catheters in the internal iliac arteries
- If severe bleeding balloon occlude the internal iliac arteries and embolize

Embolization for Bleeding in OBGYN - Conclusions

- Need is rare but treatment of choice
- May be life-saving
- Greater awareness needed
- Radiology must offer 24/7 service or transfer to IR unit?
- Effective/Safe/Future fertility would seem to be ok

Uterine Artery Embolization

Uterine Fibroid Embolization

(UAE or UFE)

UTERINE FIBROIDS - SYMPTOMS

- Irregular heavy periods – menorrhagia
- Pain and discomfort – dysmenorrhea
- Bulk/Pressure symptoms – bladder/bowel/sciatic nerve
- Infertility
- Late miscarriages/Premature labour
- Severe pain in pregnancy
- NB – NONE 50% +

TREATMENT OF FIBROIDS - SIZE OF THE PROBLEM

- USA - Hysterectomy 177,000 - 366,000 yr
  - Myomectomy 37,000 - 45,000 yr *
- Systematic review UK - 73,000 NHS Hysterectomies yr

(*UAE. Review of the literature and proposal for research.RAND/SCVIR 2000)

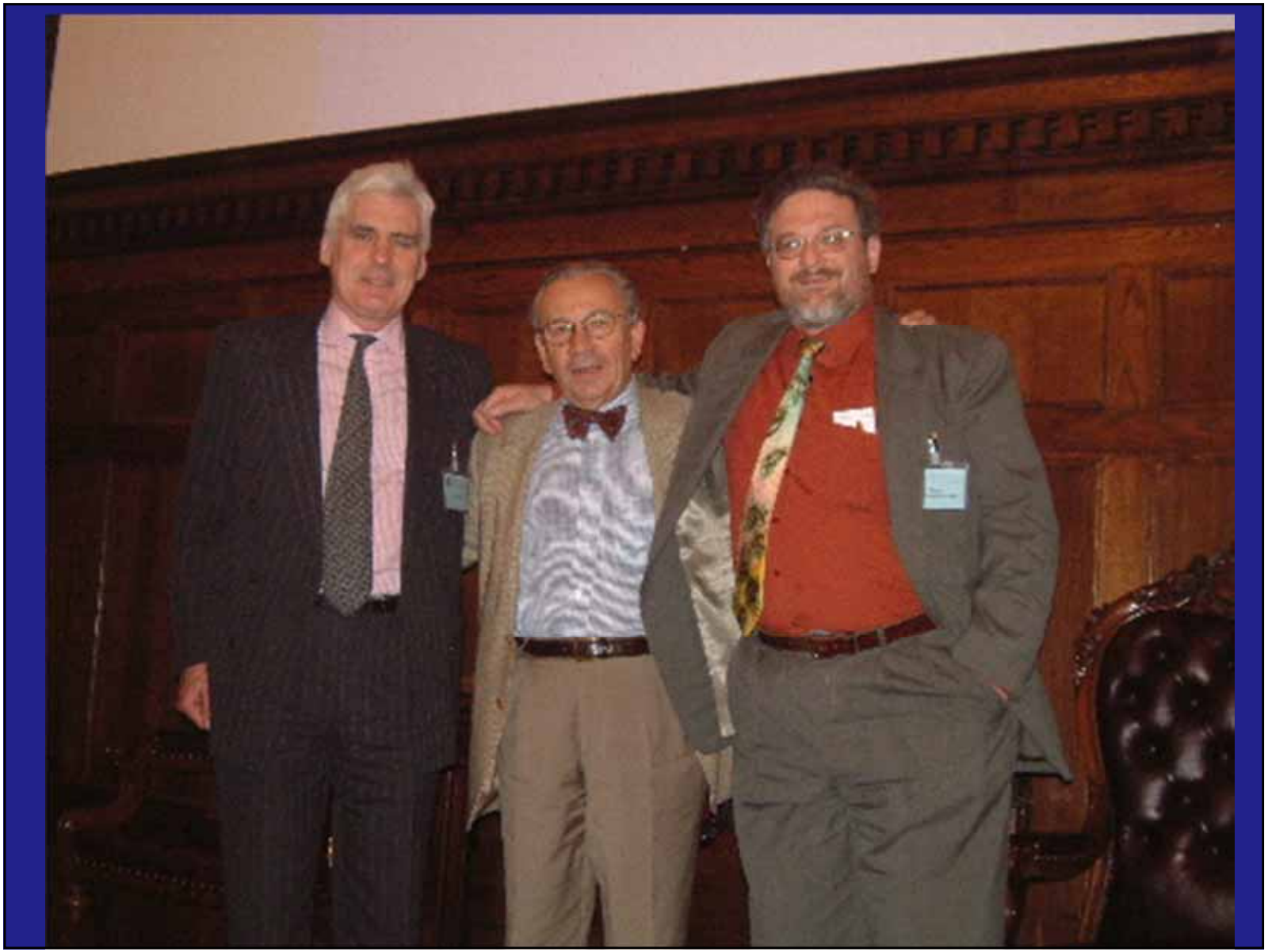
Uterine Fibroids - Treatment Options

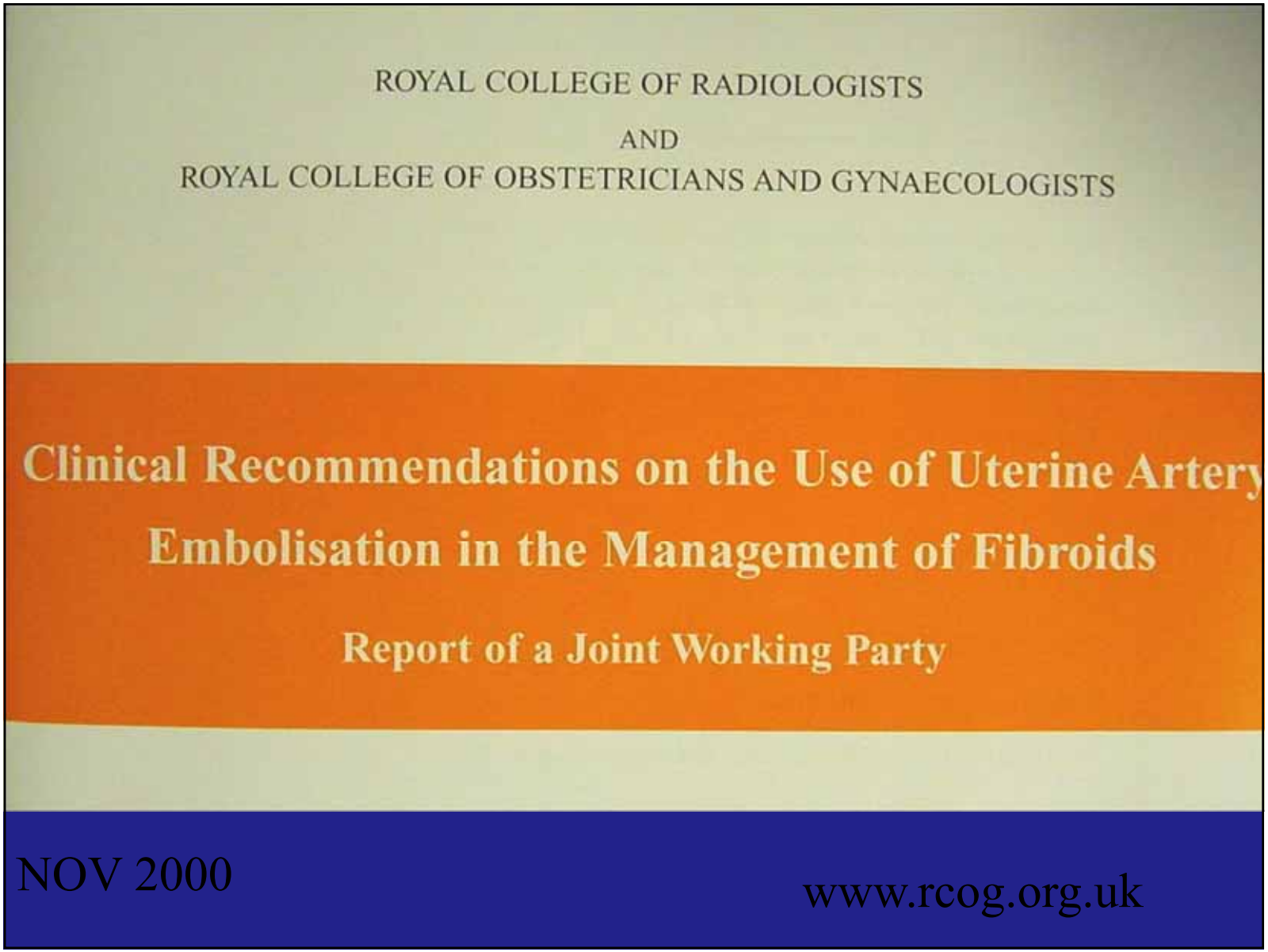
- Hysterectomy
- Myomectomy (Abdo/Laparo/Hystero)
- UAE + Myomectomy
- Medical - GnRH analogues
- Myolysis/Laser treatment
- UAE
- No treatment N.B

Embolization in Obstetrics & Gynaecology

- 1979 1st report UAE - non-fibroids
- 1995 Preoperative embolization fibroids (Ravina. Paris)
- 1995 Primary treatment for fibroids

  (Ravina. Lancet 346:671-2.1995)
- RCR/RCOG report - 2000
- NICE (National institute for clinical excellence) 2003 and 2004
- 2nd RCR/RCOG report - April 2009




ROYAL COLLEGE OF RADIOLOGISTS
AND
ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS
Clinical Recommendations on the Use of Uterine Artery Embolisation in the Management of Fibroids
Report of a Joint Working Party
NOV 2000
www.rcog.org.uk

UAE - National Institute for Health and Clinical Excellence (NICE) July 03

‘ uncertainty about the safety and efficacy of UAE …clinicians should therefore…’

- inform their clinical governance leads
- ensure women understand & provide written information (NICE info recom’d)
- establish audit/research
- submit data to BSIR (ie.Registry)

UAE NICE - OCT 04
Recommendations

- As before but…..

  ` safe enough for routine use….

  symptomatic benefit in majority in the short term.

  ..more evidence required on degree and duration of benefits… and on effects on fertility `

Quality Improvement Guidelines for Uterine Artery Embolization for Symptomatic Leiomyomata

CIRSE - SIR Guidelines

(Cardiovasc.Intervent.Radiol.2004 27:307-13)

2005

CBSNEWS.com

March 8, 2005 6:41pm ET

The Early Show | CBS Evening News | 48 H

POLITICS • Section Front

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Rice Resting After Surgery

WASHINGTON, Nov. 19, 2004

Condoleezza Rice underwent surgery on Friday at Georgetown University Hospital. (Photo: AP)

(AP) Condoleezza Rice, President George W. Bush's choice to be the next secretary of state, underwent surgery Friday to treat noncancerous growths in the uterus, a White House official said.

The national security adviser underwent uterine fibroid embolization at Georgetown University Hospital, and it appeared to be successful with no complications, said Jim Wilkinson, a deputy national security adviser.

"The surgery was successful and she is resting comfortably," Wilkinson said.

QUARTZ

Uterine fibroid embolization

UAE - Fibroid Disease
General Requirements

- Gynae/Radiology cooperation
- Planned responsibility
- “State of the art” vascular room
- Experienced angiographer
- Analgesic protocol
- Overnight admission

Uterine Fibroid Embolization – Referral process

- Referrals from Gynaecologists - was letter, now form
- Need for Imaging. Routine US - Ideally MRI
- Symptomatic women only
- Letters to Gynaecologist + woman with patient information (risks detailed)
- Woman advised to call/e-mail/attend with any ?/ concerns
- If all OK - BOOK

Fibroids are Common in Middle - aged Women

- 1364 women (members of prepaid health plan) 35-49 yrs - 50% black
- Diagnosis by US or previous surgery
- Cumulative incidence 70% white and 80%+ in black women
- Hysterectomy - 12% Black 5% White
- Fibroids in 52% with no previous diagnosis

(Am J Obstet Gynecol 2003;188:100-107)

Uterine Fibroid Embolization – How I do it – Pre-procedure

- Admit morning of procedure under radiologist.
  - No Gynae involvement needed
- Informed consent
- Routine 1 night stay – NB. Must be escorted home next day
- Pregnancy test
- Clinical infection check

Role of MRI pre Uterine Artery Embolization

- Case for all women - except for cost

Advantages of MRI (with contrast)

- Misdiagnosis of fibroids on US. Esp. Poor quality US. Obesity
- Diagnosis of other pelvic disease
- Location of fibroids eg. pedunculated subserosal
- MR characterisation of fibroids - viable i.e. enhance with contrast (important in older women)
- Good to show women

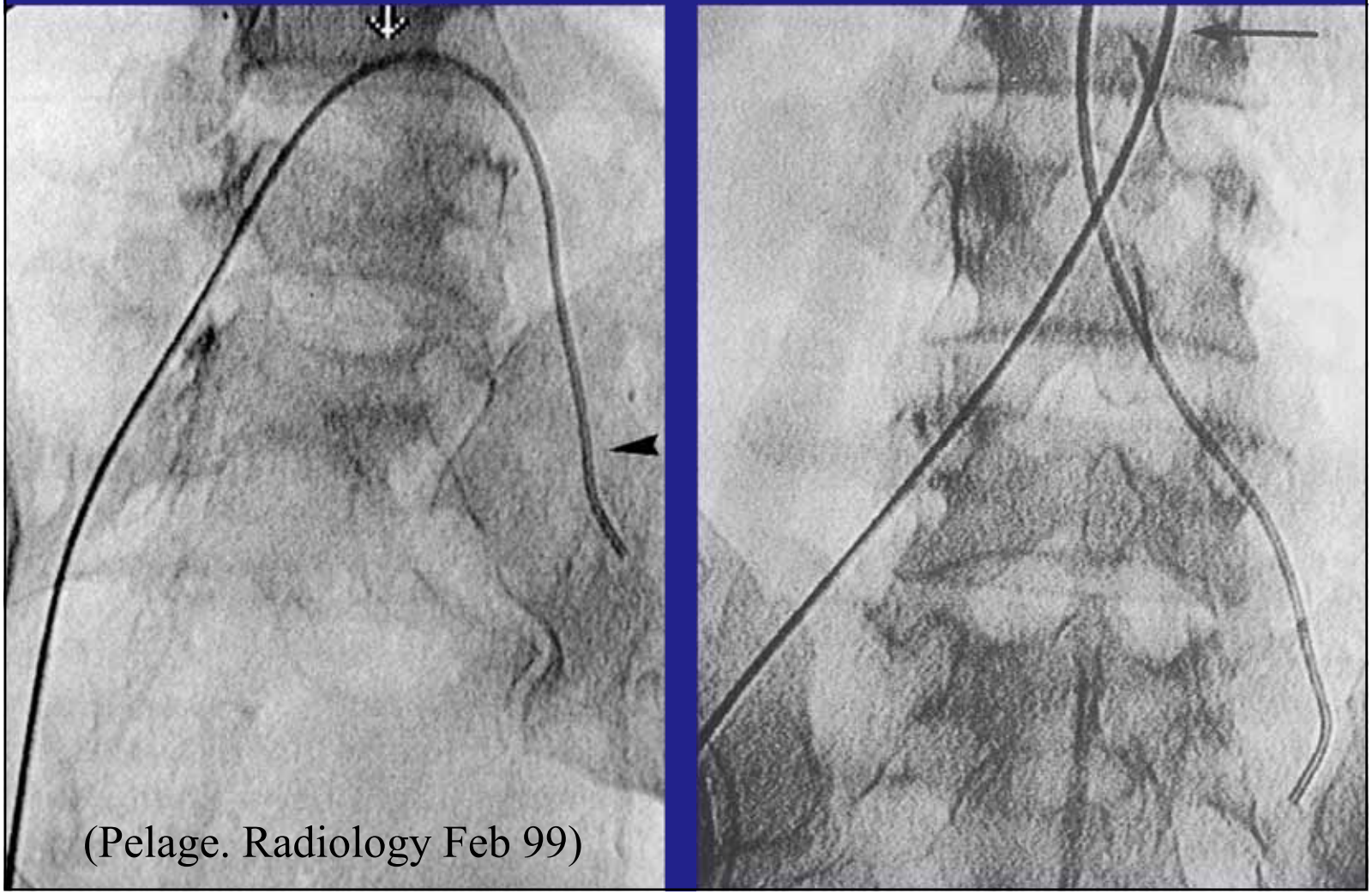
UAE - Embolization Technique

- 4F Sheath/Cobra catheter (NB.endhole) alt. Dav/Ver/Roberts catheter
- Hydrophylic guidewire 035”/alt 014/018”
- Coaxial catheter eg.Progreat (Terumo)) if spasm/small artery
- PVA particles 500u
- Single dose Metronidazole 500mgm IV
- Ovarian artery of no routine concern

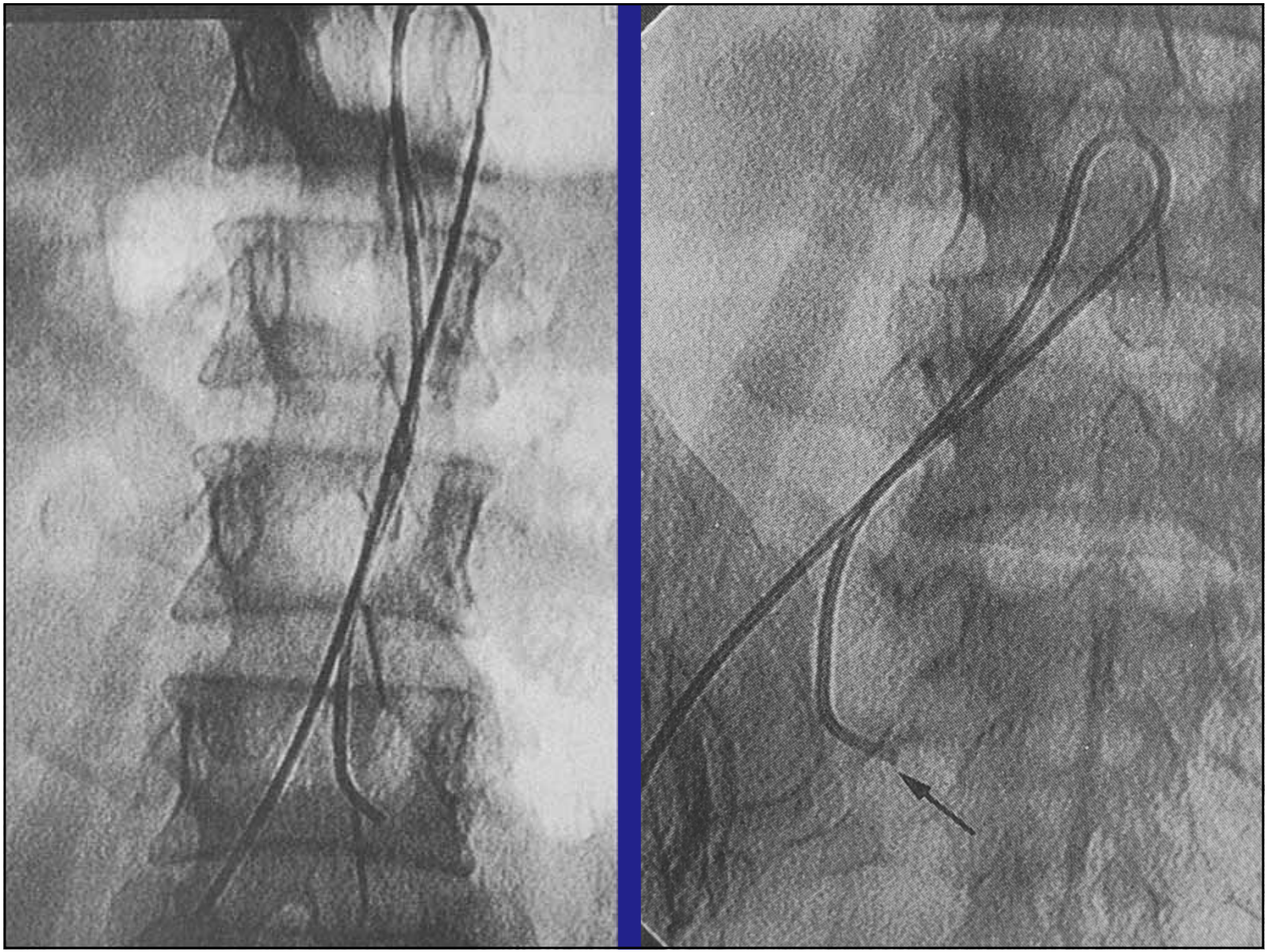
UAE – Technical Catheterisation

- All from right CFA
- Attempt Rt.If easy proceed.If not go to L
- Proceed with left side
- Form Waltman loop.N.B splint with guidewire to avoid kinking. Alt.Roberts catheter
- Back to R. side. Use as sidewinder or straighten
- Occasionally exchange for short angletip cath

FORMATION OF WALTMAN LOOP



(Pelage. Radiology Feb 99)

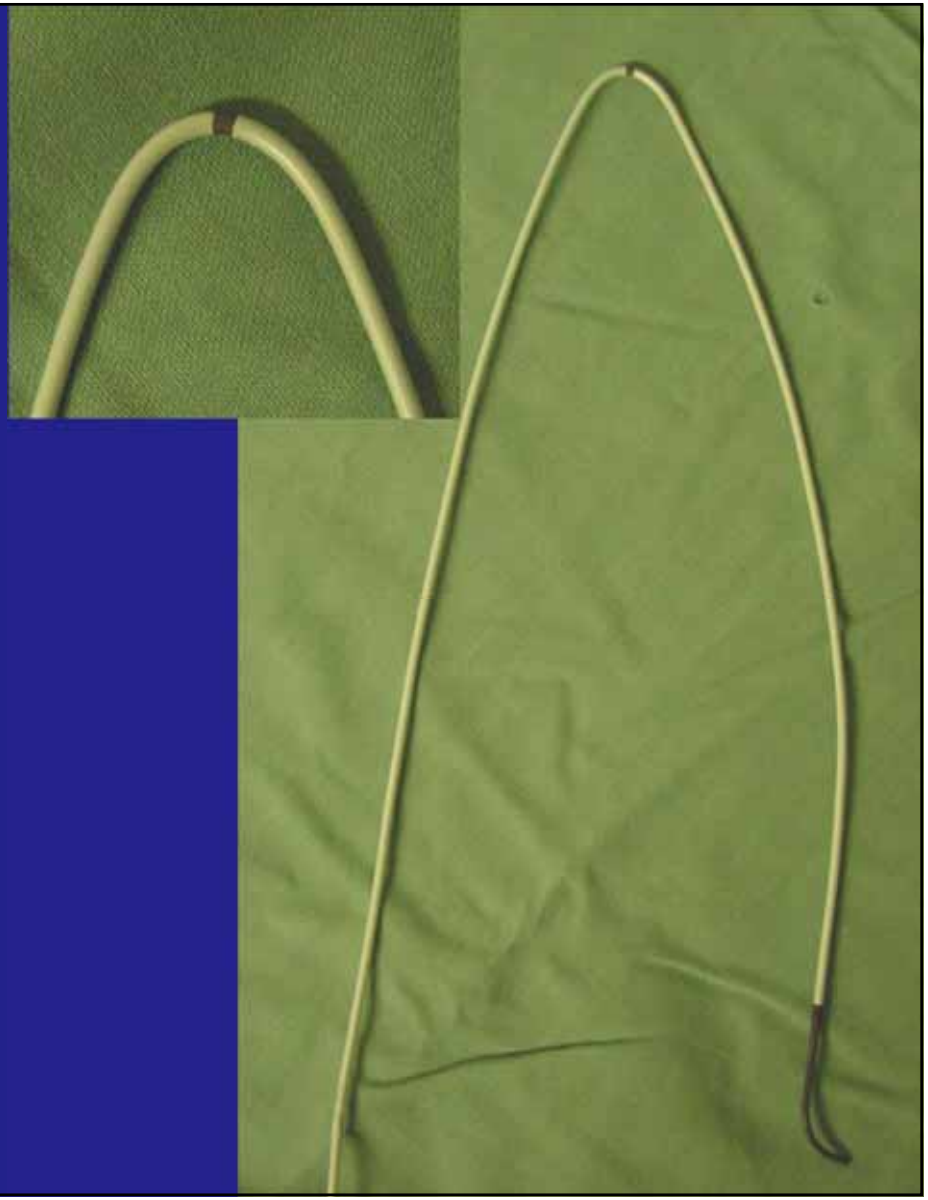


Roberts Catheter

5F but tip tapers

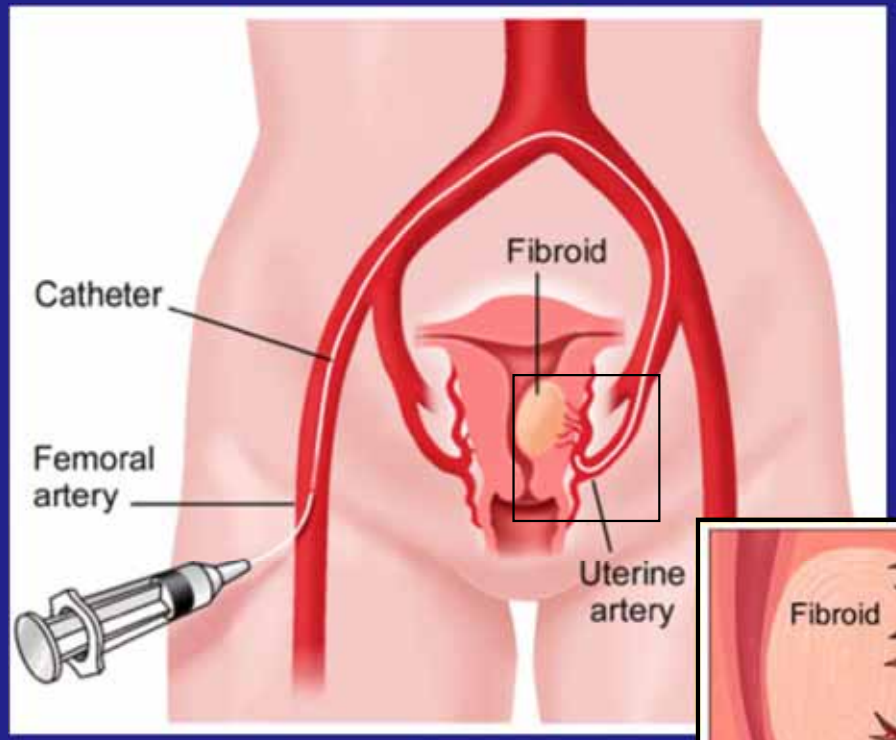
For R and also L uterine a.
Apex reinforced so as to not kink
cf. Waltman loop

(W Cook)

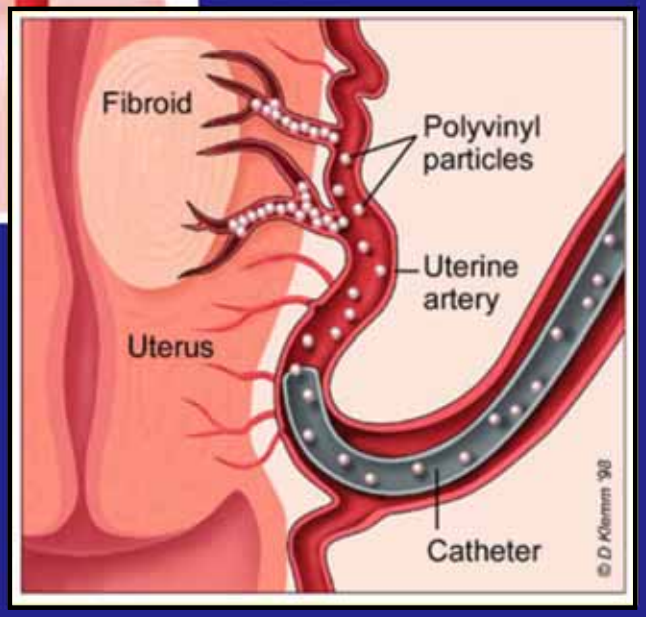


UAE –Analgesic Protocol

- Midazalam 2-3mg/Fentanyl 50ugm IV - premed
- Morphine 10mg IM/Ondansetron IV 4mg
- Post-proc PCA pump. Morphine 1mg boluses with 6mins lockouts
- Antiemetics PRN – Ondansetron 4-8mg IV 8hrly
- Paracetamol 1G 6hrly IV/PO
- NSAIDS (Voltarol 100mg PR) alt. 150mg/1L N saline/24hrs

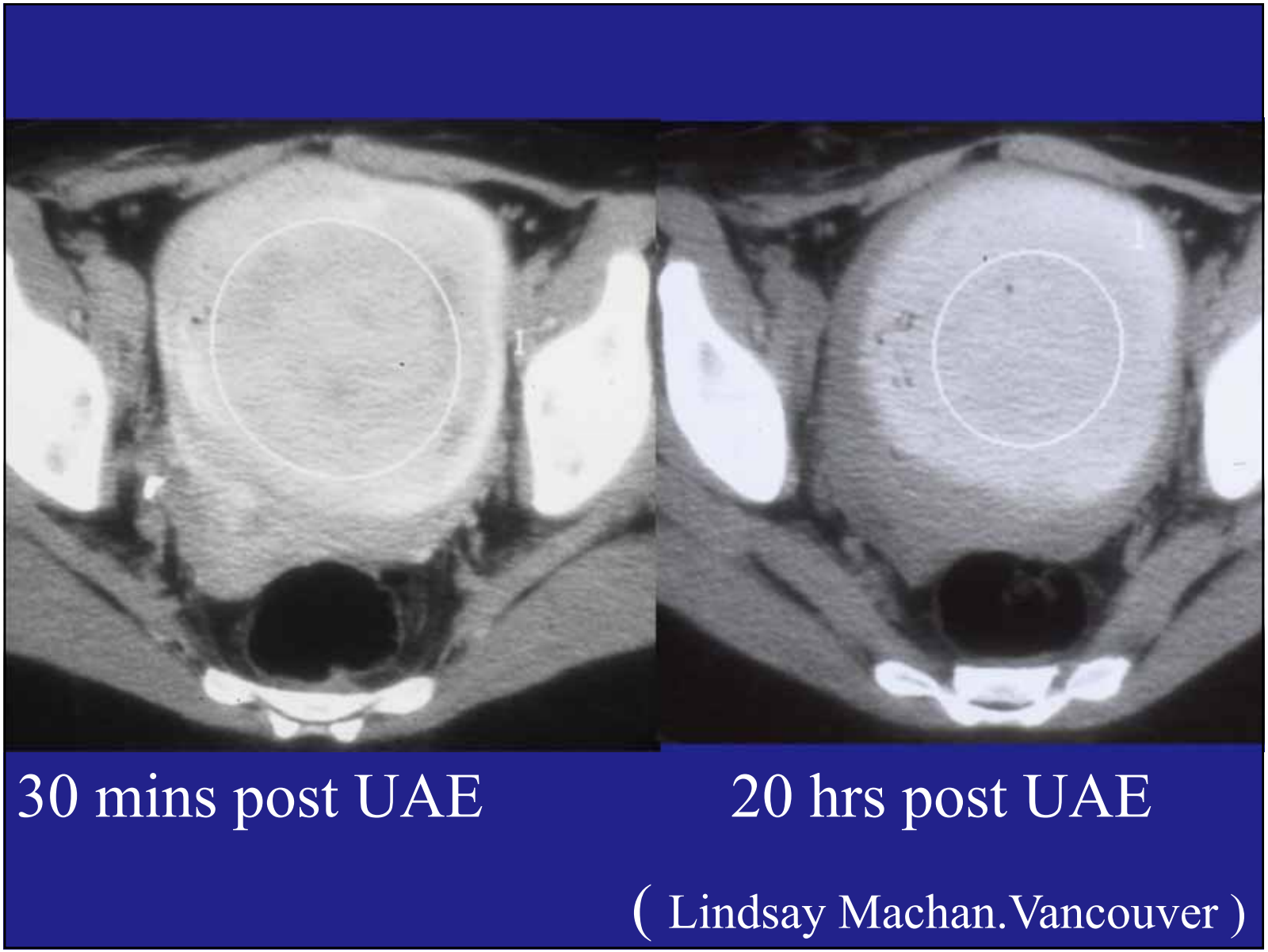


EMBOLIZATION IS GLOBAL TREATMENT



EMBOLIZATION IS FLOW-DIRECTED

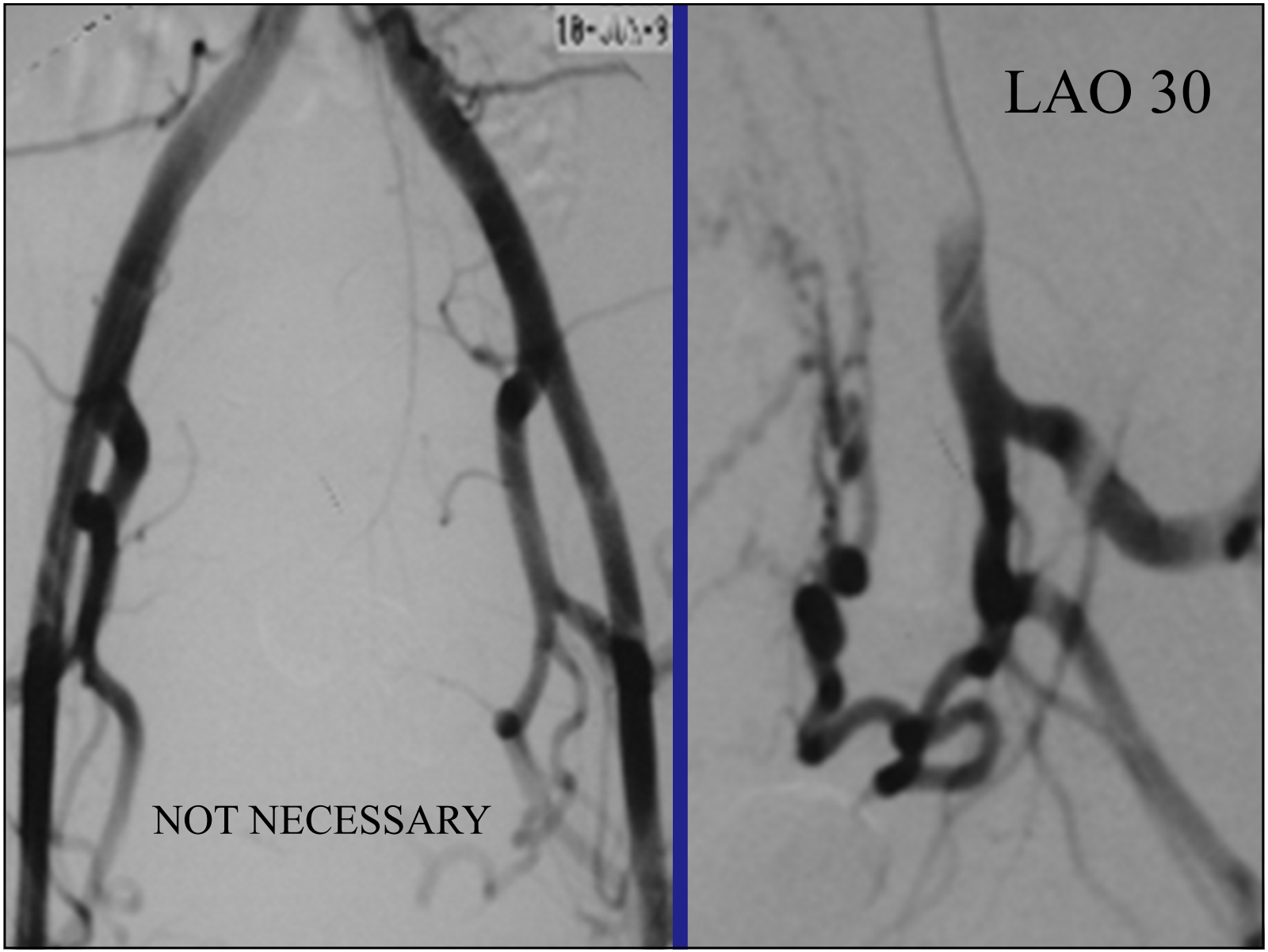

Fibroid
Polyvinyl particles
Uterine artery
Uterus
Catheter
© D Klemm '98
REF
PVA
500
500 µ-710 µ
COOK

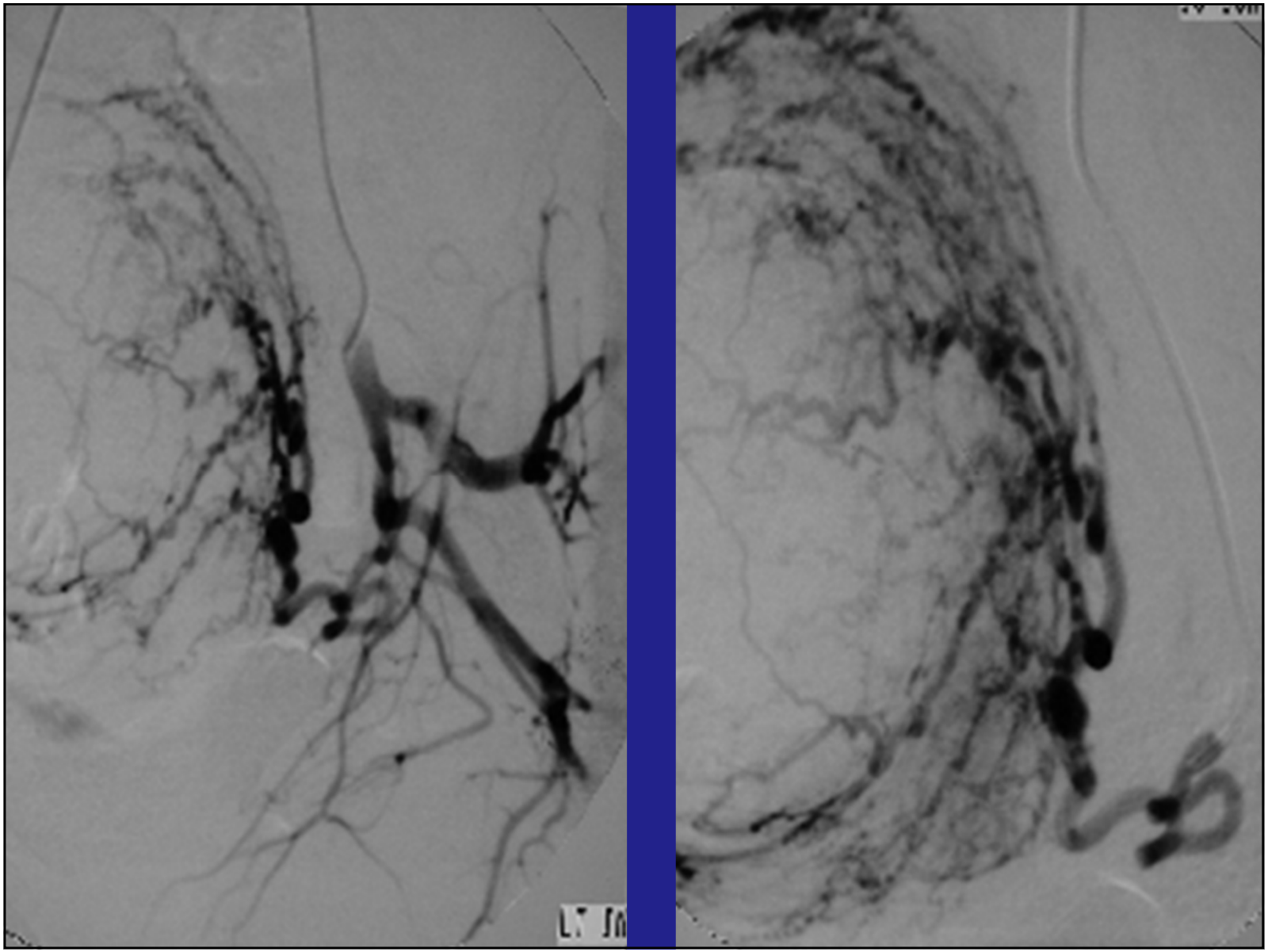


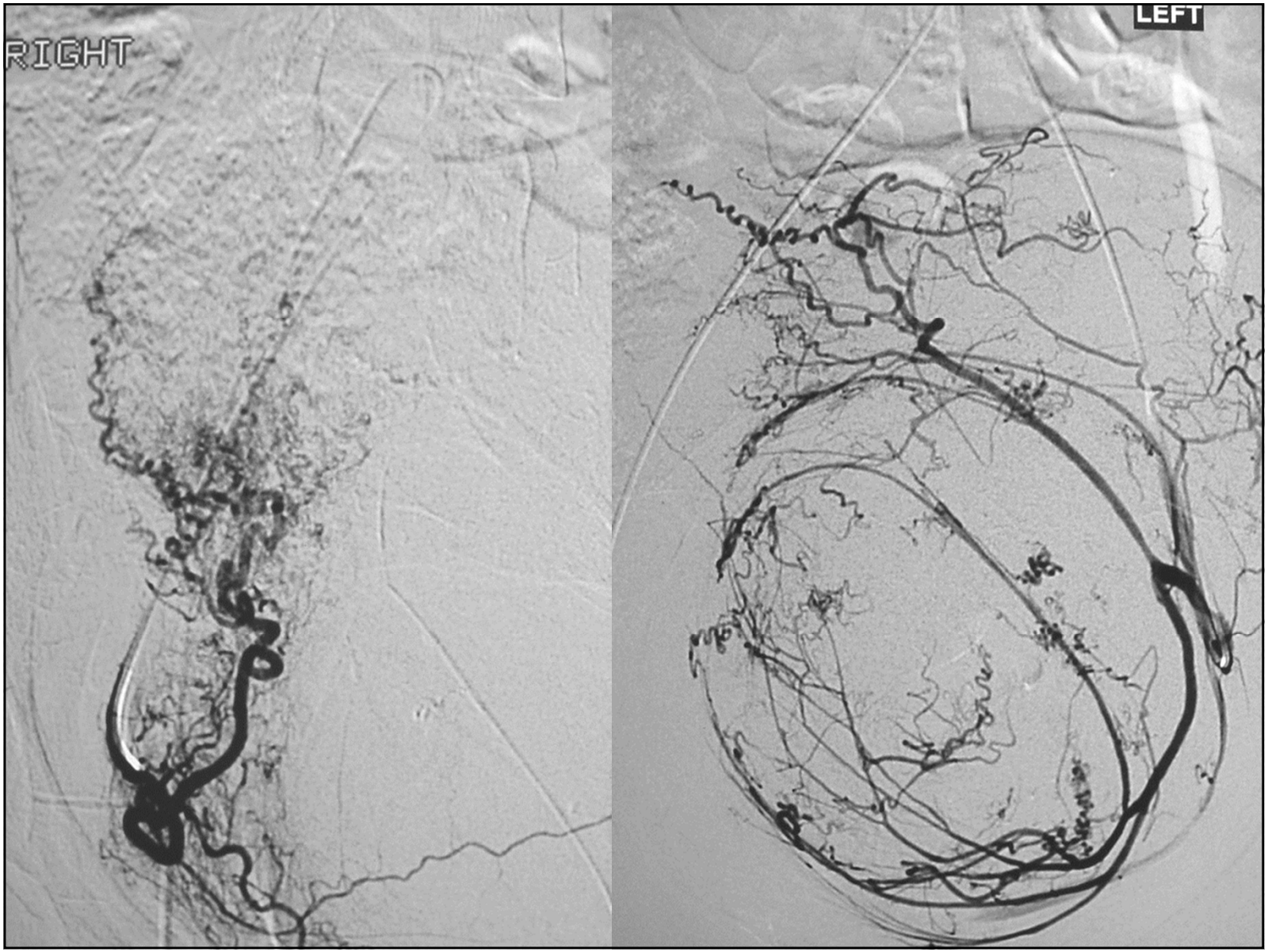
30 mins post UAE

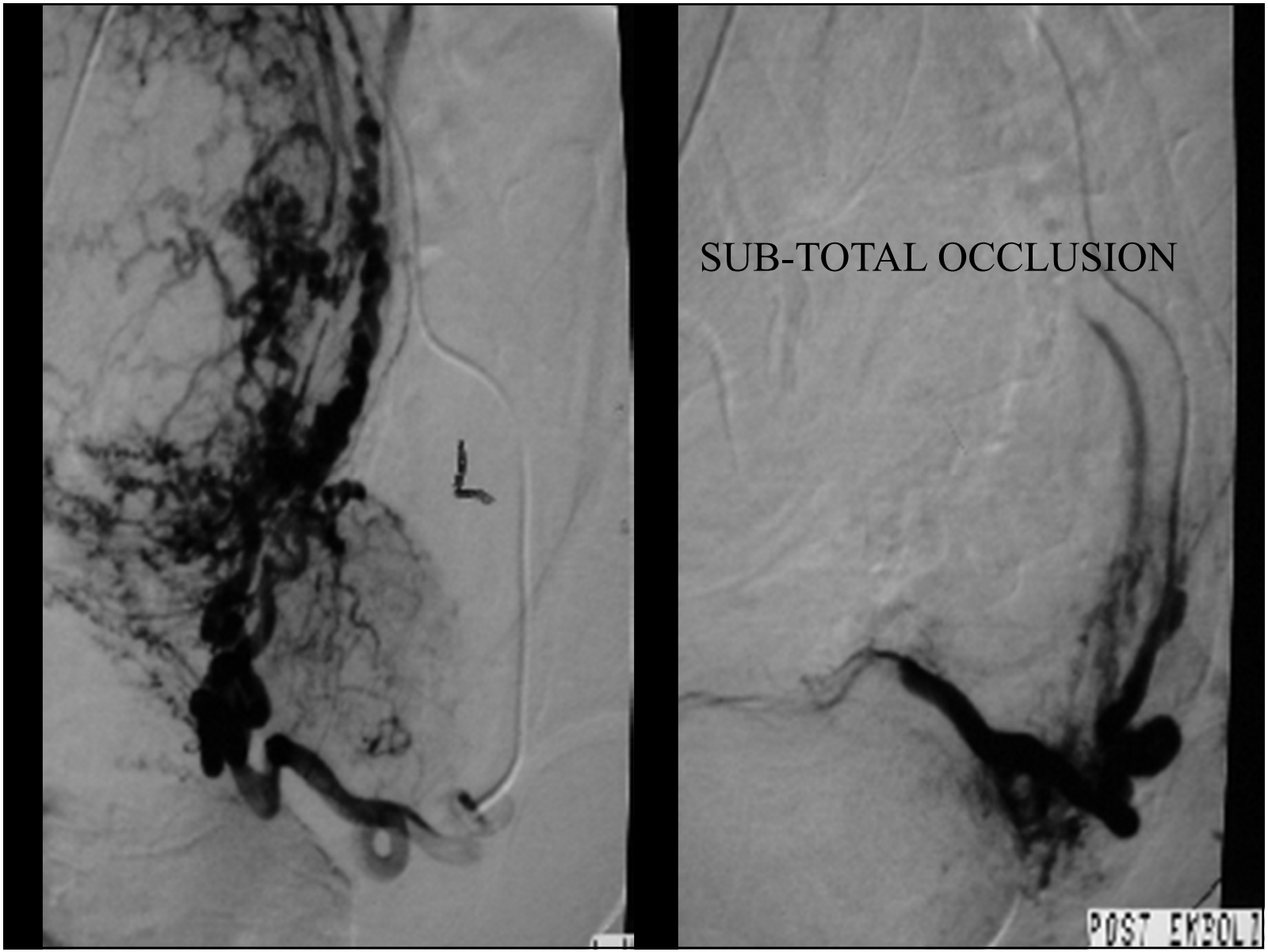
20 hrs post UAE

(Lindsay Machan. Vancouver)


LAO 30
NOT NECESSARY




RIGHT
LEFT


SUB-TOTAL OCCLUSION
POST EMBOL

Uterine Fibroid Embolization – Post-procedure

- Give patient information sheet + advise post-procedure/pre discharge (Nurse/Dr)
- Low threshold for woman calling
- Letter to Gynaecologist/GP
- Gynaecologist must be aware of potential problems
- Radiologist can advise but if real concerns women must see Gynaecologist.

TECHNICAL RESULTS IN UAE - ONTARIO TRIAL

- Multicentre prospective study- 555 women.mean 43yr. 66% white
- 8 Hospitals (university/community)
- Technical success – 97% - failures due to variant anatomy
- 30 complications (5.3%) only 3 major

(Gaylene Pron. JVIR May 2003 14: 545-554)

Tolerance,Hospital Stay & Recovery After UAE - Ontario Trial

- Multicentre study 555 women
- Telephone interviews 2/52 & 3/12 by trained personnel/scripted
- Intraprocedural 30% Post-procedural pain 92%
- Mean Hosp stay 1.3 days
- Readmissions 3% - mainly for pain
- Post-procedural complications 8% 32/44 pain
- Mean recovery time 13.1 days

(G Pron. JVIR Oct 2003 14: 1243-1250)

Long Term Outcome After UFE
(SIR April 05 - Spies et al)

- 200 women
- 4yr followup in all. 5yrs in 170
- 1 yr 87% improved symptoms
- At 4yrs 144/179(80.4%) improved
- At 5yrs 72% improved.

  23.6% failure rate – 24 Hysterectomy (4 not for fibroids, 8 Myomectomy,3 rpt UFE
- No Hysterectomy for complications

The Fibroid Registry

Symptom and Quality-of-Life Status 1 Year After Therapy

- US registry established in 1999. 72 sites
- 2112 eligible women.
- FU data 1701(80.5%) at 1yr
- Mean symptom score 58.61 - 19.23. In 5.47% no improvement
- Mean QoL 46.95 to 86.68. In 5% no improvement
- 82% happy with outcome

(Obstet Gynecol 2005;106:1309-18)

The Fibroid Registry - 2

- Hysterectomy in 2.9% at 1yr
- Myomectomy in 1.45% at 1yr
- Gynae interventions (inc Hys) in 3.6% by 6/12 and in 5.9% from 6/12-1yr
- Repeat UAE in 1.21% in first yr

REST (Randomised Study of Embolization and Surgical Treatment for Fibroids) trial

- Multicentre RCT (27 hospitals) Scotland
- 157 women with symptomatic fibroids.All MRI
- Randomised 2:1 UAE 106 /Surgery 51
- 95% underwent allocated treatment
- Assessment on intention to treat
- Primary outcome - QoL (short form 36) at 1yr
- Secondary outcomes – procedure/complication/time to recovery /costs

(N Eng J Med 2007;356:360-70)

REST Trial – Short-term Results

- UAE 101 Surgery 51 (HYS 43.MYO 8)
- UAE less painful at 24hrs (VAS 3.0 vs 4.6. $P < .001$
- UAE shorter hosp stay (1 vs 2 days)
- UAE sooner return to work (20 vs 62 days)
- No difference in adverse events
  - major 15% UAE vs surgery 20%. $P = 0.22$
  - minor 34% UAE vs 20% surgery. $P = 0.47$

REST Trial – Mid-term Results

- UAE 101 Surgery 51 (HYS 43.MYO 8)
- No SD QoL SF36/EuroQuol scores at 1yr
- Both groups equally satisfied
  - would recommend to friend 88%UAE. Surgery 93%
- UAE more likely to need 2^{ndy} intervention
  - 21 at 1yr cf. 1 for surgery (P 0.3)
- At 1yr 4% probability rpt UAE 8% hysterectomy
- Cost UAE £1757 vs Surgery £2702

Complications of UAE

- Failure to embolise both arteries
- Post-embolisation syndrome - majority
- Expulsion of fibroids 5-10%
- Persistent discharge/infection 2-5%
- Persistent pain 5-10%
- Premature menopause 1%
- Sepsis leading to hysterectomy 1%

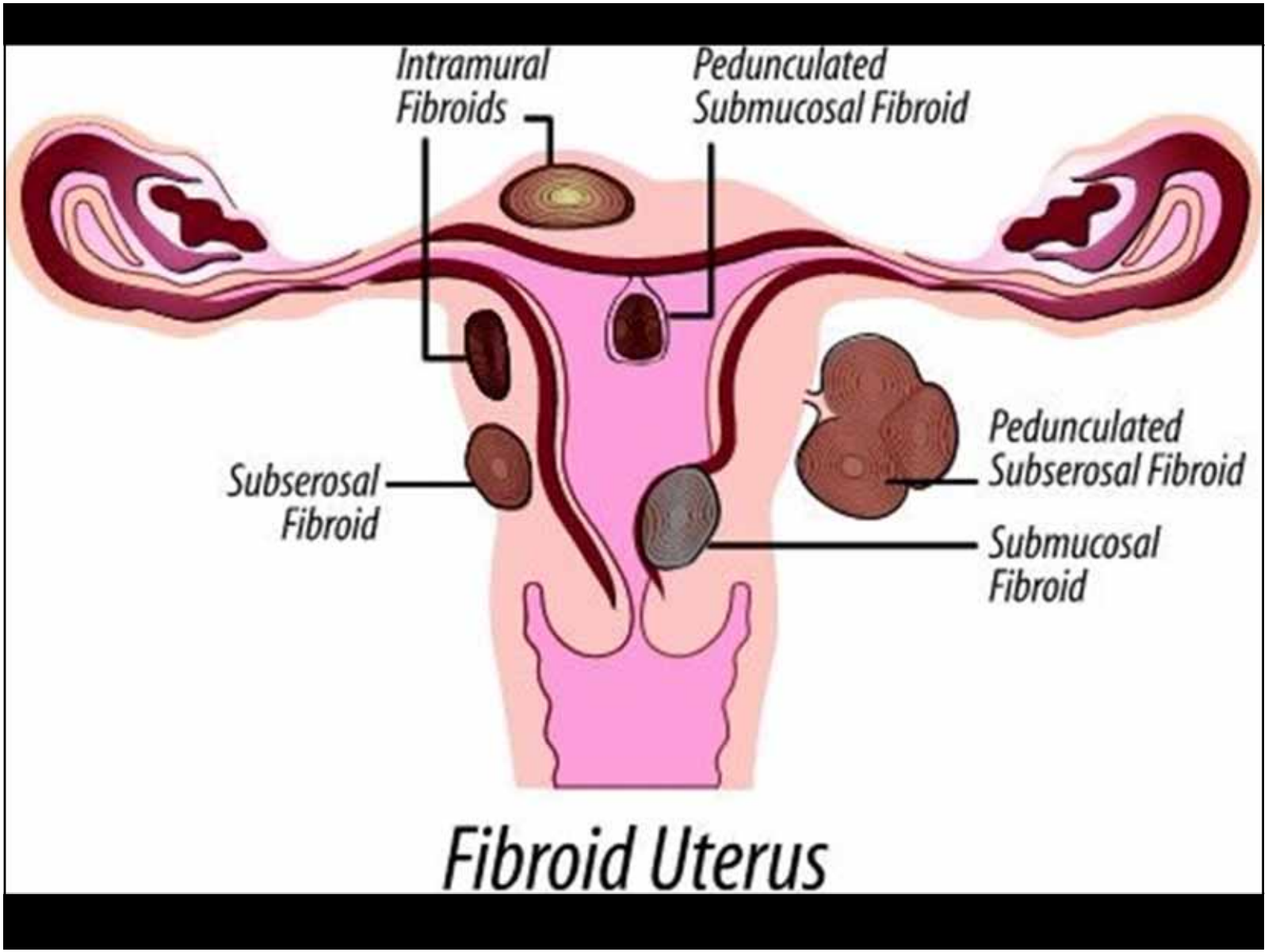
UAE for Fibroids - Complications Avoidance

- Concerns about diagnosis – role of MRI
- Good indications – Risk/Benefit equation
- Avoid pedunculated subserosal fibroids (<50%)
- Clinical evidence of active infection
- Concerns re large fibroid uteruses but…
- Women counselled that risk for all treatments

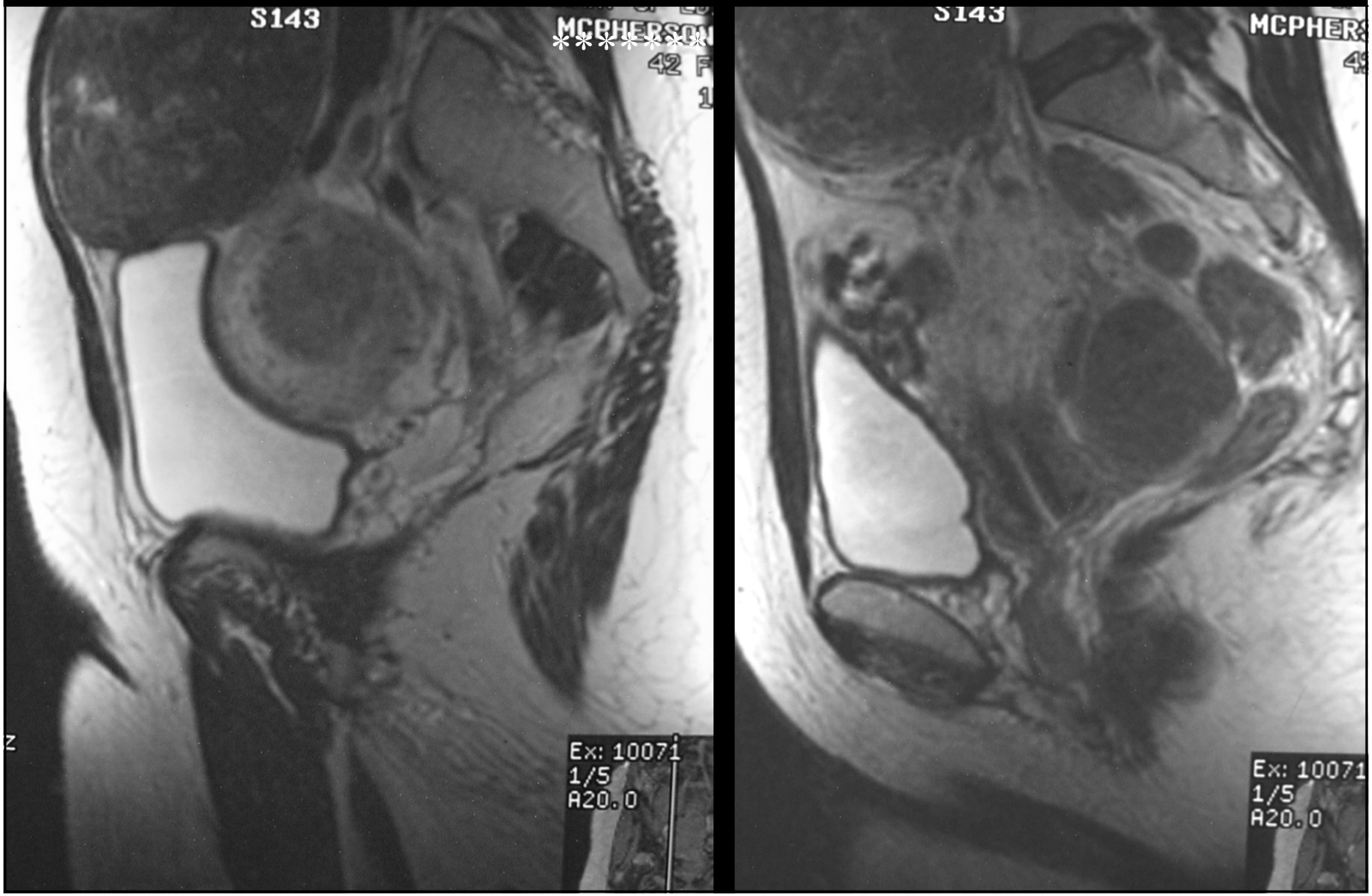
UAE – Complications and responsibility

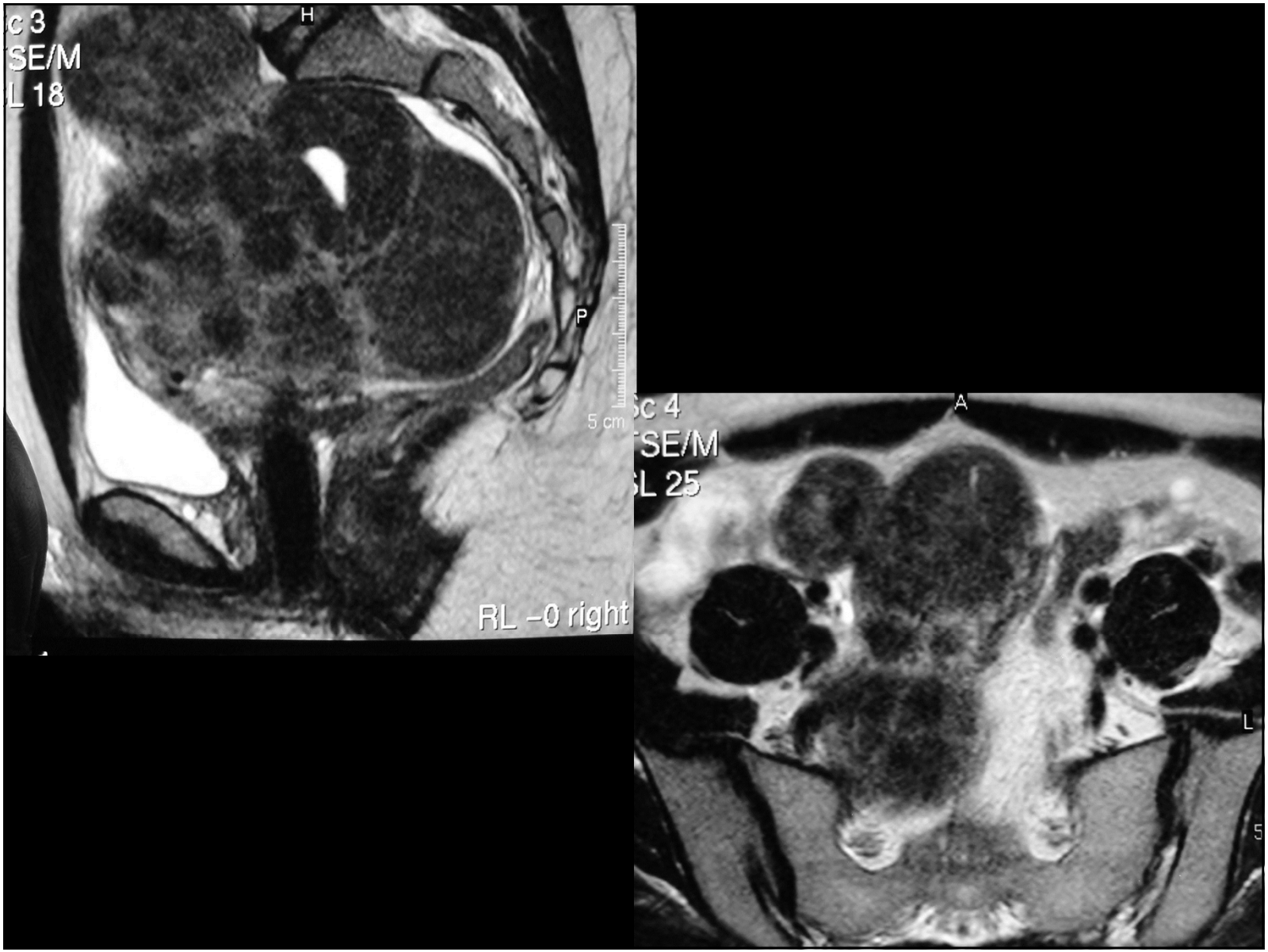
- Procedural & Post-procedure hospital stay – IR
- From discharge onwards IR + GYN

  NB. Important to define responsibilities/care pathways
- Gynaecologists need to know about UAE and possible complications


Intramural Fibroids
Pedunculated Submucosal Fibroid
Pedunculated Subserosal Fibroid
Subserosal Fibroid
Submucosal Fibroid
Fibroid Uterus

FUNDAL SUBSEROSAL FIBROID – NOT FOR UAE




c 3
SE/M
L 18
H
P
5 cm
RL –0 right
c 4
SE/M
L 25
A
L

UAE – Early Complications (2/52)

- Post-embolization syndrome
- Extra night/readmission
- Coincidental – DVT/PE

NB. Woman must be counselled/given post-procedure information sheet + also for gynae/GP

Post embolisation syndrome

- Pain
- Malaise
- Swinging pyrexia
- Nausea
- Anorexia
- Raised white cell count

Must be differentiated from more serious sepsis that can be late

HOPEFUL Study (Multicentre retrospective cohort study) UAE vs HYS Complications

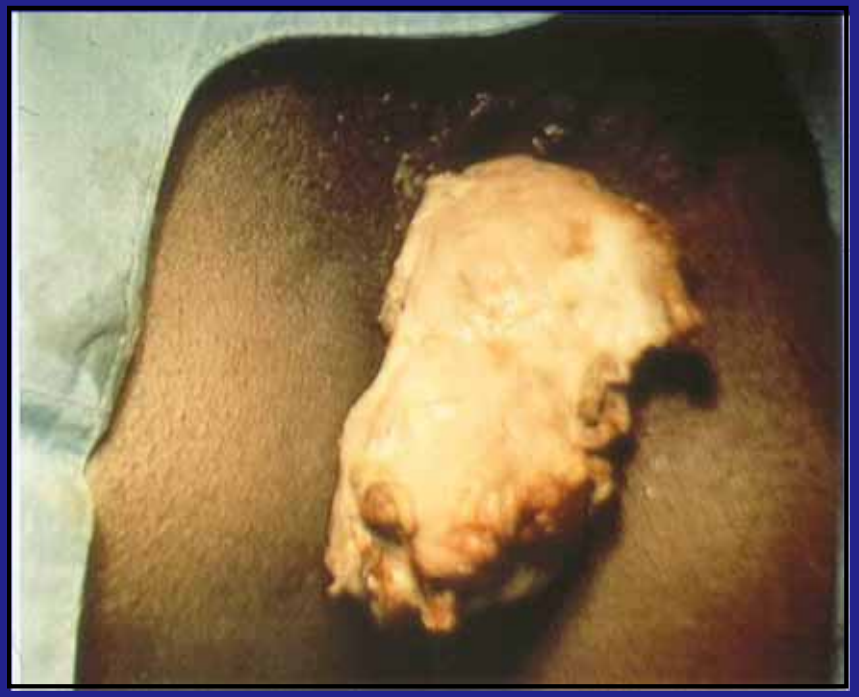
- 649 UAE - 10 UK centres 1996+
- Severe 1 – Respiratory arrest
- Major 24 (3.7%)
  - 17 Septicaemia/MYO/HYS
  - 7 HYS – acute for infection (1.1%)
  - 1 Permanent amenorrhoea

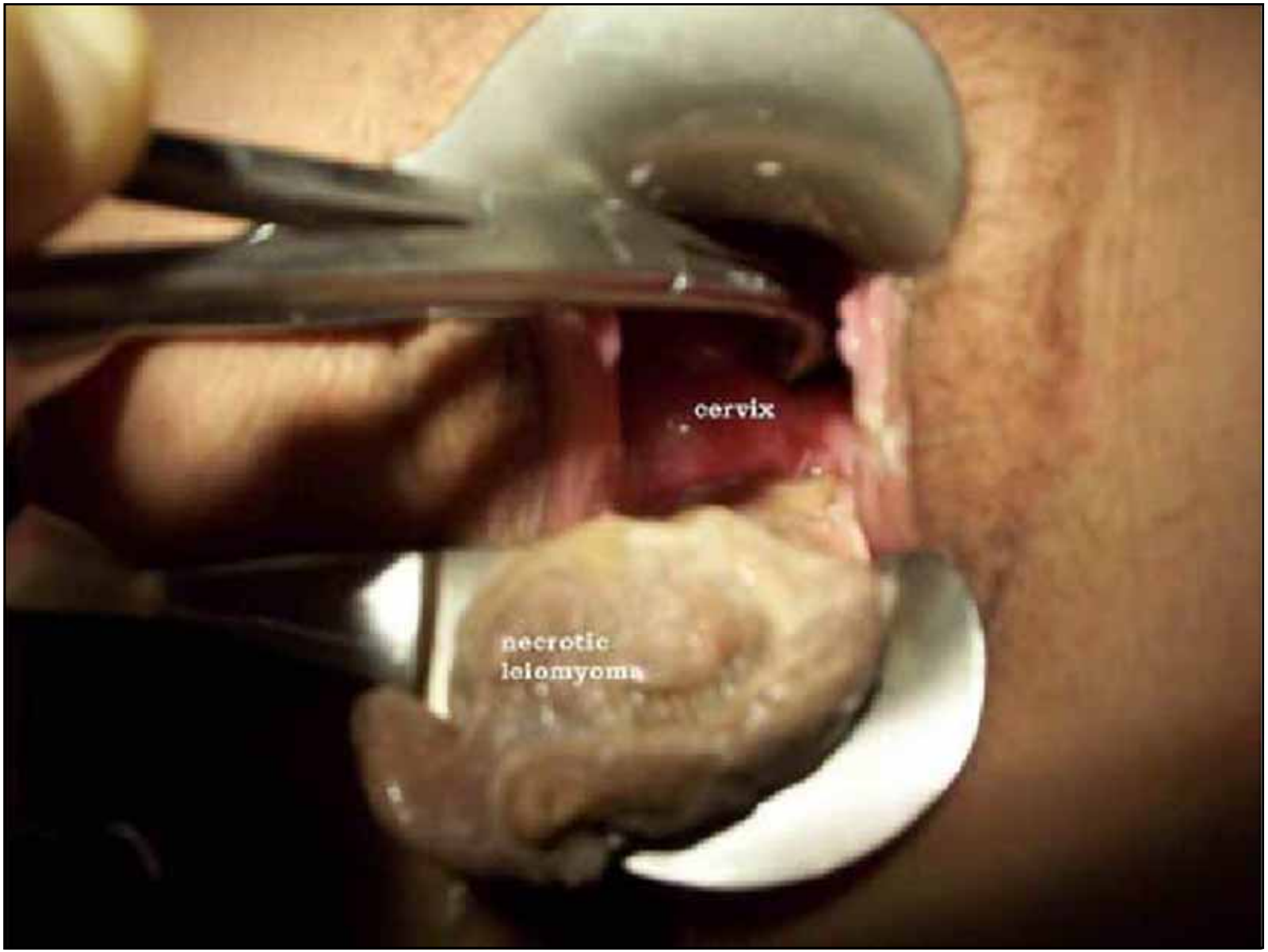
UAE – Late Complications
Fibroid expulsion

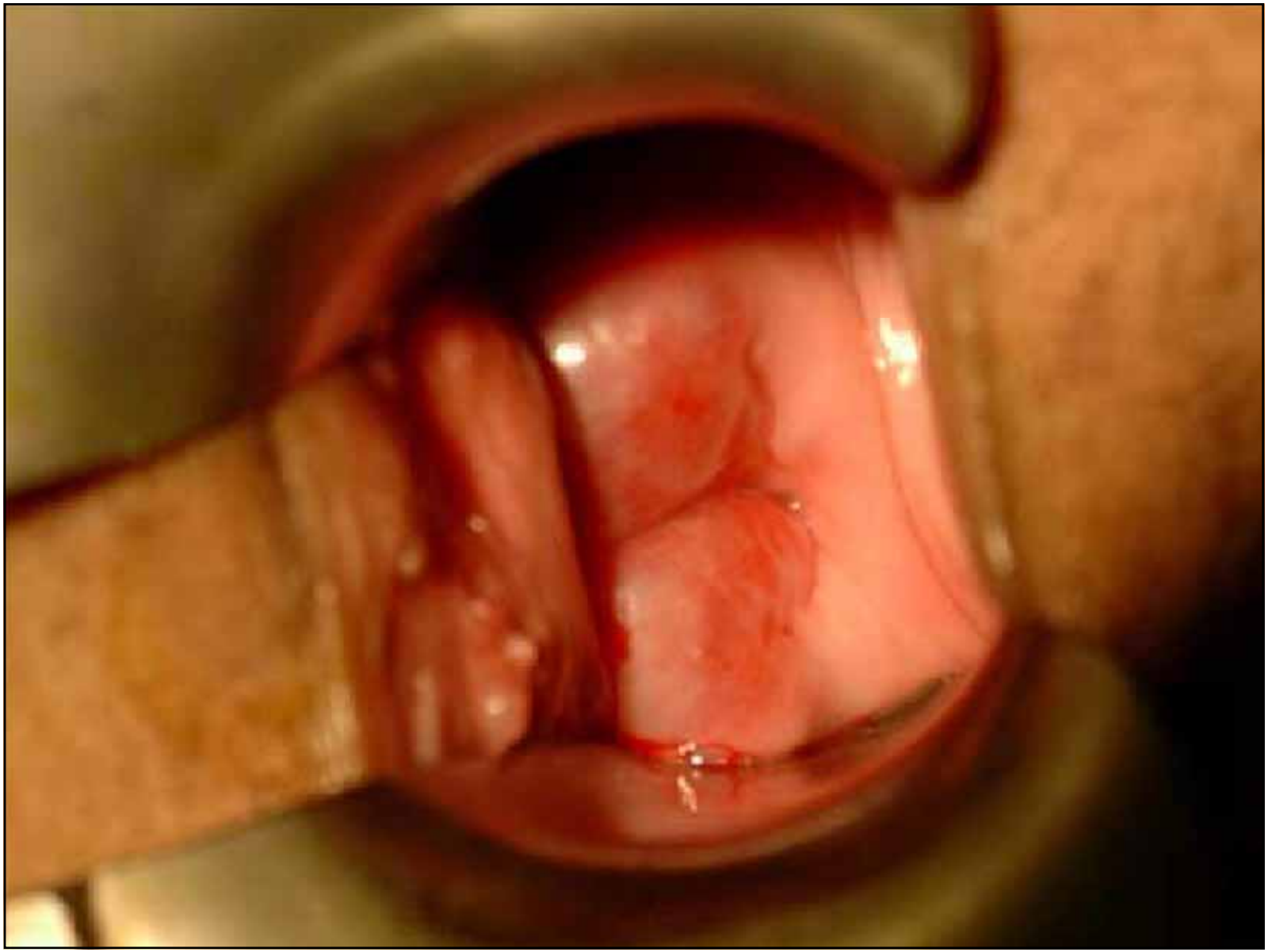
- Incidence - 5-10 %
- More likely in submucous fibroids
- Particular concern in cervical fibroids
- Women must be warned
- May occur late
- Prolapsing fibroid may obstruct cervix
- May need gynaecological local procedure

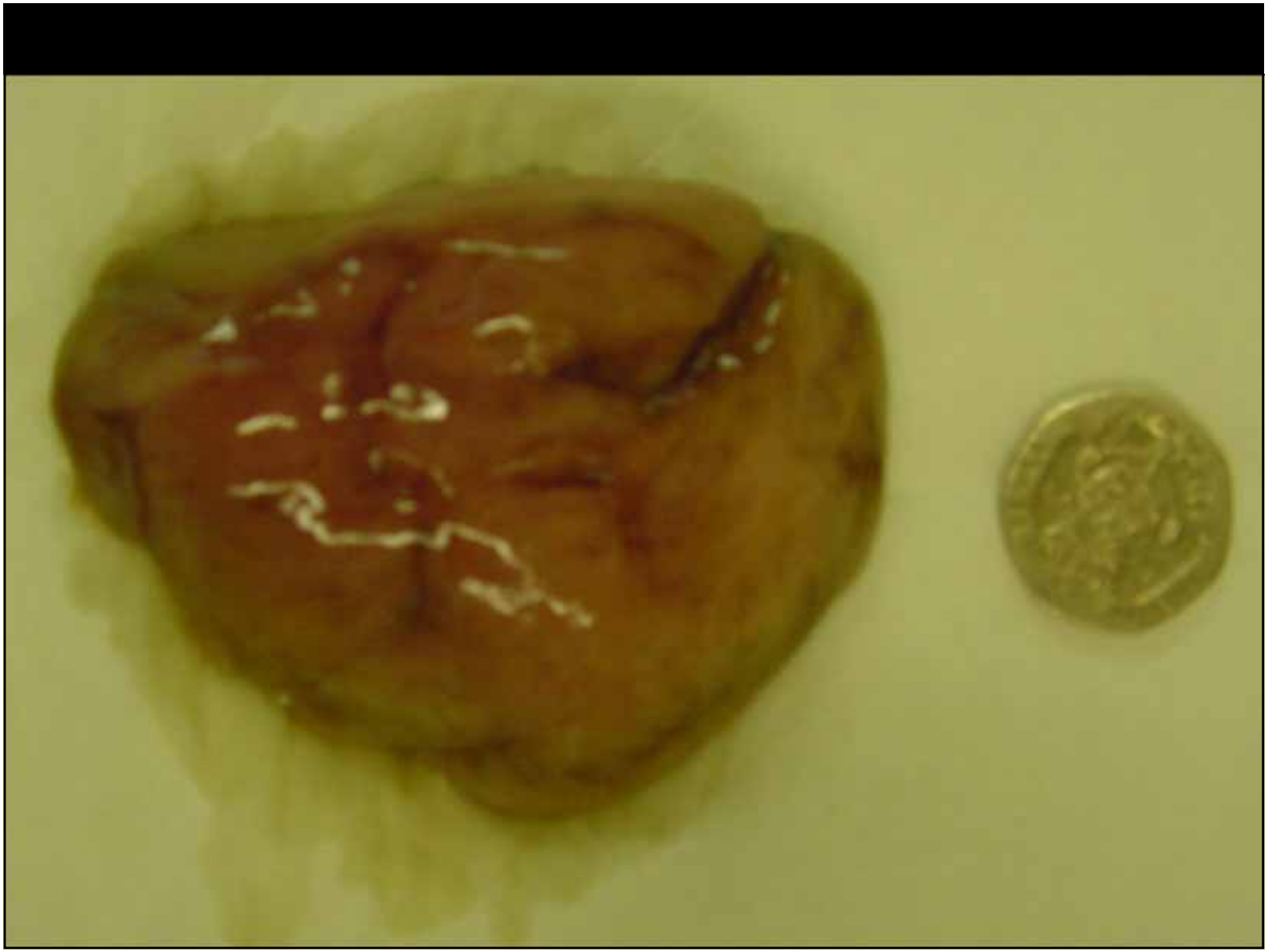
Expulsion of Fibroids

- May be associated with persistent discharge
- Probably intracavity fibroids
- Frightening to patient and doctor
- May occur at inopportune times




cervix
necrotic
leiomyoma

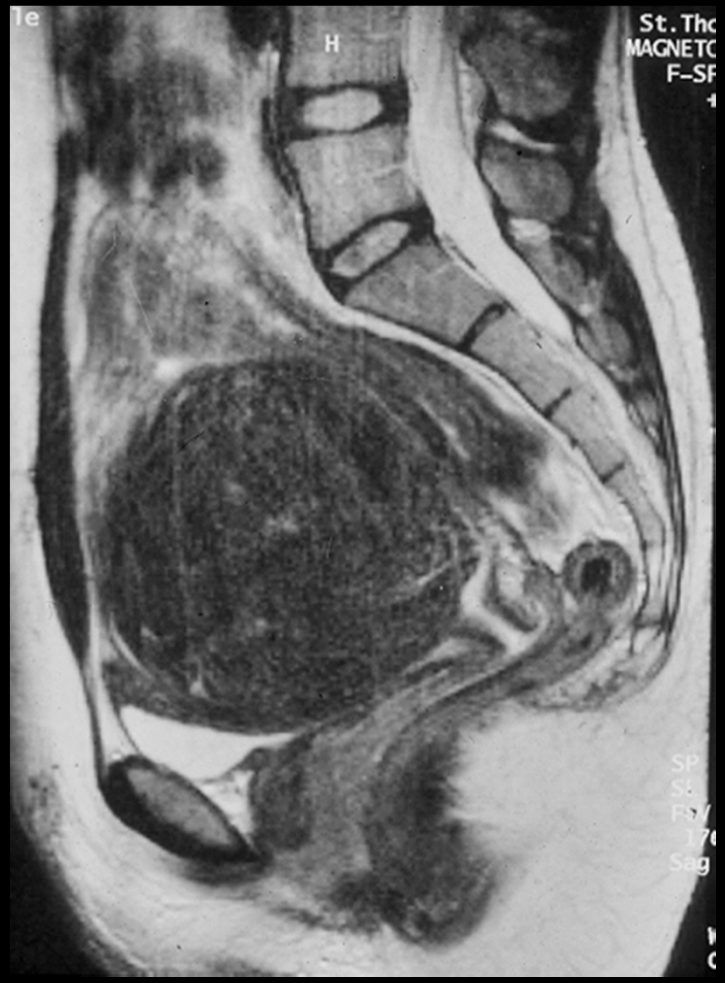




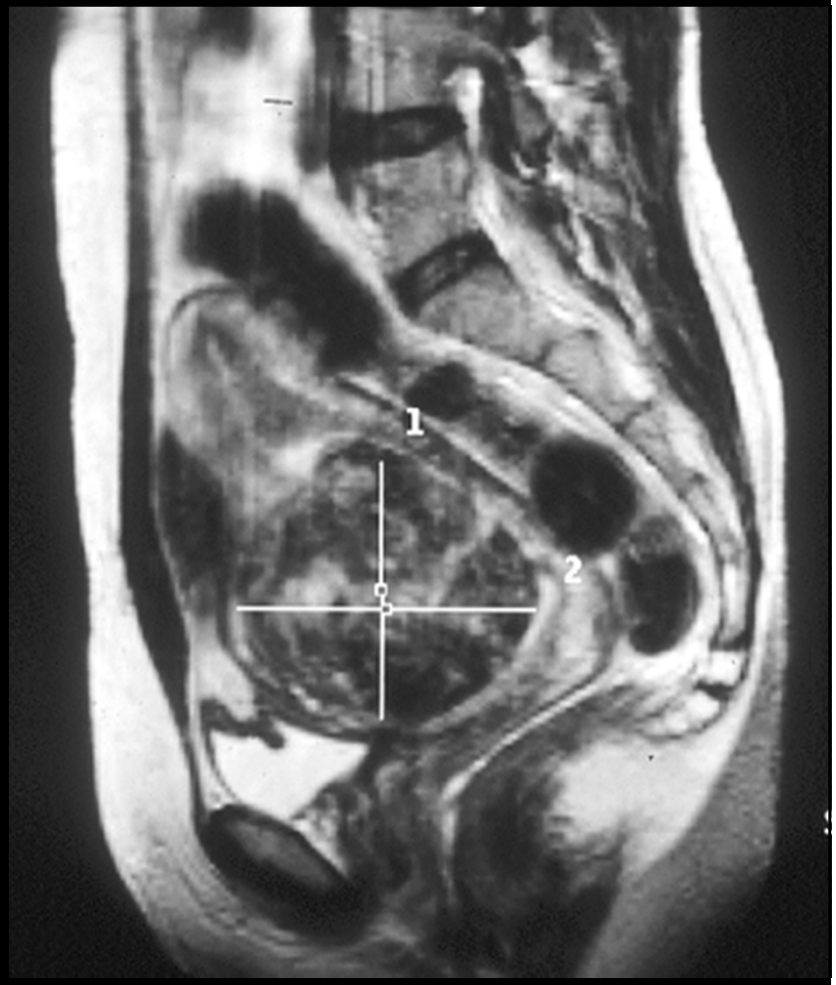
CERVICAL FIBROIDS

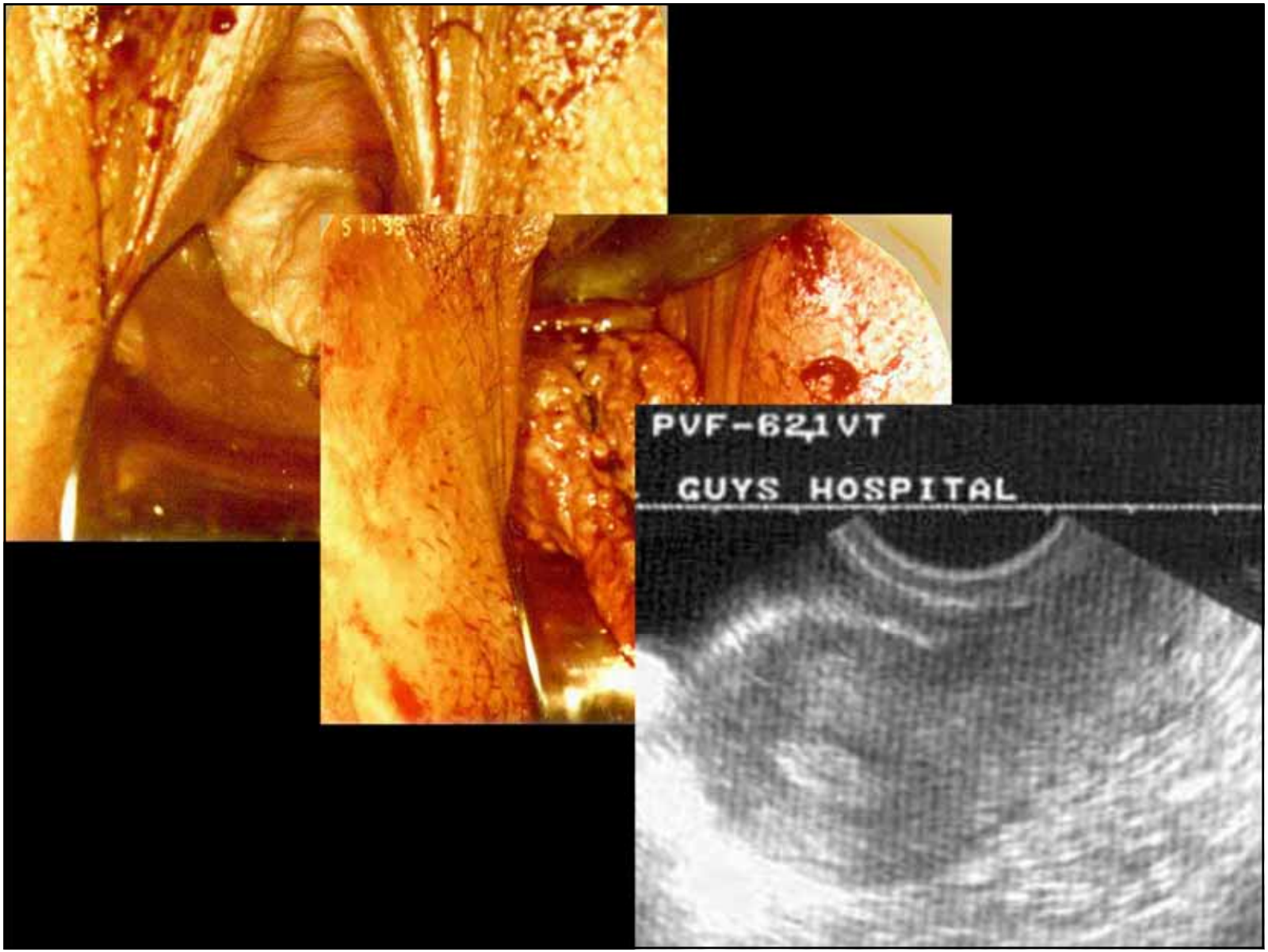
- Hysteroscopic approach only if stalk accessible
- If not major risk of bleeding and hysterectomy if myomectomy attempted
- UAE but needs careful followup as fibroid may be expelled as shrinks

Before embolisation



6wks after embolisation




PVF-621VT
GUYS HOSPITAL

UAE – Late Complications Infection

- Can occur early or v late – years! - ?7!
- Women warned about offensive discharge,pyrexia,late pain
- Needs Gynae assessment and antibiotics and careful watching
- Possibility of cervical obstruction/necrotic fibroids

UAE – Infection & Hysterectomy

- SCVIR survey - 4165pts. 0.6%(2001) Pron 2/555 (0.4%) Spies 0/400.Walker 3/400(0.8%)
- Infection more common and precedes
- Early recognition/treatment should reduce incidence
- Antibiotics/suction/fibroid extraction
- Late diagnosis (anaerobes) = difficult surgery
- Probably best quote risk approx 1%

Post UAE Amenorrhoea

- Temporary
- Perimenopausal - `Let it be me!`
- Permanent
- Permanent in younger women rare ≈1%
- Role for pre-UAE FSH

Should UFE be offered to patients desiring fertili

terine fibroid embolization has been used in the past decade not only a far less drastic alternative hysterectomy, but also by women who wish to retain their fertility. This issue of whether the rocedure should be offered to women with fibroids who want to conceive, is being hotly debated gynaecologists and interventional radiologists. A debate on the subject took place at a UFE asterclass held recently in London, under the watchful eye of Honorary Chairman Jacques Ravina, e 'father' of uterine artery embolization. The recent joint working party report by the Royal olleges of Radiologists and Obstetricians and Gynaecologists (RCR /RCOG) has also addressed this ry issue.

William Ledger

The RCR / RCOG report concluded that for women desiring fertility, myomectomy ould be the treatment of choice and t UAE should not be recommend- This was due to the lack of earch into the long-term effects of AE on both fertility and the child elf. The report stipulates that Women who undergo embolization ould be told that the effects of the cedure on pregnancy and the uling child are uncertain and that re may be long term implications the health and development of r offspring and, hence, they ould not try to conceive after the cedure." The report also states t "Pregnancies will continue to cur following fibroid embolira- n." It recommends that "... a chanism whereby a register of such gnancies, including those that do result in live birth, be established. llection and return of these data uld form part of SERNIP (Safety d Efficacy Register of New erventional Procedures) approval for centres wishing to undertake the procedure."

Professor William Ledger, a gynaecologist from the University of Sheffield who agrees with the report's recommendations, has highlighted topics for further study if UAE is to be used by women wishing to retain their fertility. These should include pregnancy outcomes, childhood growth and development, animal studies into placentation following UAE, ovarian function following UAE and a randomised controlled trial comparing UAE with alternatives. Ledger also mentioned the example of ICSI (intracytoplasmic sperm injection) children to illustrate this. ICSI was a treatment given to men with low sperm counts, enabling their partners to conceive. However, a decade later a small excess of the sons born after ICSI treatment were found to have congenital defects. "Potential parents considering ICSI treatment" says Professor Ledger, "can be reassured because large, carefully conducted studies have been carried out to look at short and long-term follow-up of infants conceived after ICSI. Such information is lacking for pregnancies following UAE." Ledger also quoted Jacques Ravina when he said "The truth of today is the mistake of tomorrow", adding a thought-provoking aside; "Is it not worse than not being able to have a child, to bring one into the world who is profoundly impaired?"

Robert Forman

However Robert Forman, consultant gynaecologist at the Centre for Reproductive Medicine in Harley Street, London, countered that that ICSI "is a technique which has been used for a decade and given rise to tens of thousands of babies to couples who would not be able to have children otherwise. There is a debatable but suggested minor increase in risk of abnormalities of male children. Should the technique never have been introduced?" He feels the same way about UAE.

Forman recognises that the size and type of fibroid are frequently a factor in prevention of conception or carrying a baby to full term. Small subserous fibroids are probably not relevant but submucous fibroids are a major contribution to infertility. He says there are "no easy infertile women with la Although the existing li cates that myomectomy ment recommended by RCOG report, can dou tion rates, the procedure out its complications. T pelvic adhesions and abn growth of fibroids as well the procedure leading t my. Ravina's study of pre lowing embolization ap the only one of its kind only a patient cohort of no conclusions can be such little data, the stud although there is a propo miscarriage in some of the majority carried live term. A recent study by shown a 25% pregnan group of 50 women und 40 who wanted to conce UAE. Forman is quick that UAE also has its d These he sites as ov endometrial atrophy, f sion, chronic discharge and the possible loss of t also highlighted a stud menopausal women re which showed that 15% develop amenorrhea. H were all over the age Despite this, Forman see a controlled clini UAE in women who wi and a national register pregnancy outcomes.

PREGNANCY FOLLOWING UAE FOR FIBROIDS

- 52 women <40yrs ‘desire future fertility’
  - 11 previous MYO. 7 previous pregnancy
- 17 pregnancies in 14 women (33%)
  - 10 NT deliveries (7CS,3VD)
  - 5 spontaneous abortion. 2 ongoing
- All uncomplicated FT/no IU growth retardation

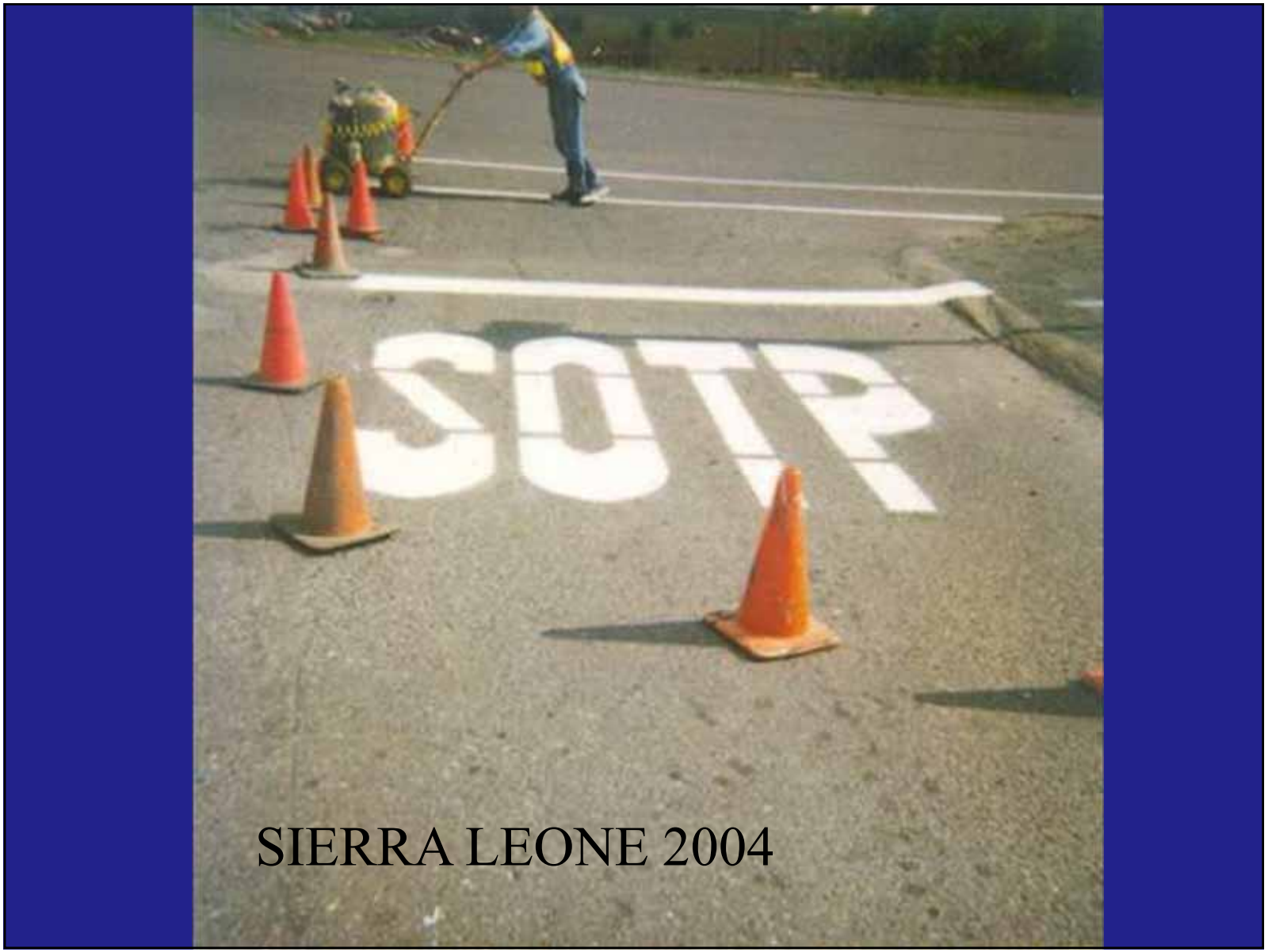
(McLucas. Int.J.Gynae & Obs.2001;74:1-7)

UAE for Fibroids- Complications - Conclusions

- More rapid recovery/Fewer complications cf. Surgery
- 80-90% women happy with result
- Best results for period related symptoms
- ≈ 50% reduction of Fibroid uterus size
- RCTs good short/medium term results
- Future fertility options better for Myomectomy cf. UAE?

UAE – Fibroid Disease Indications

- Clinical diagnosis - GYN + US ± MRI
- Significant symptoms - GYN
- Woman - Wishes to avoid Hysterectomy
- ? UAE vs Myomectomy
- Gynae/Woman - prefers UAE NB. CHOICE
- Fully informed consent
- PROCEED



SIERRA LEONE 2004