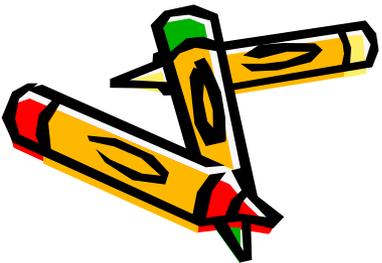


Role of interventional radiology in OB and Gyn bleeding

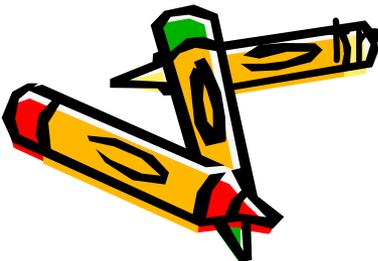
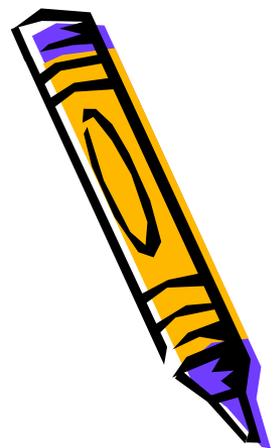


- Alireza Rasekhi
- Radiologist
- Shiraz University of medical science
- Shiraz
- Iran

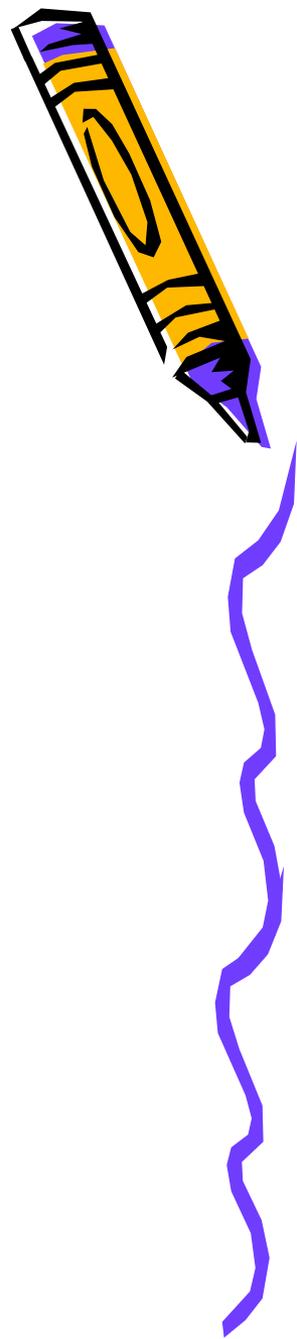


Indications

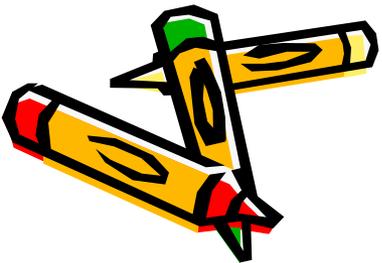
- dysfunctional uterine bleeding
- Adenomyosis
- Postpartum hemorrhage
- others less common indications include
 - uterine artery pseudoaneurysm(s)
 - uterine AVM : trauma, post curettage
 - if active extravasation of contrast is detected during angiography for another reason (post trauma)



Postpartum bleeding

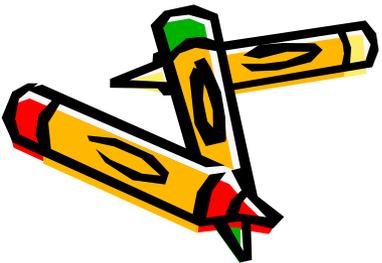
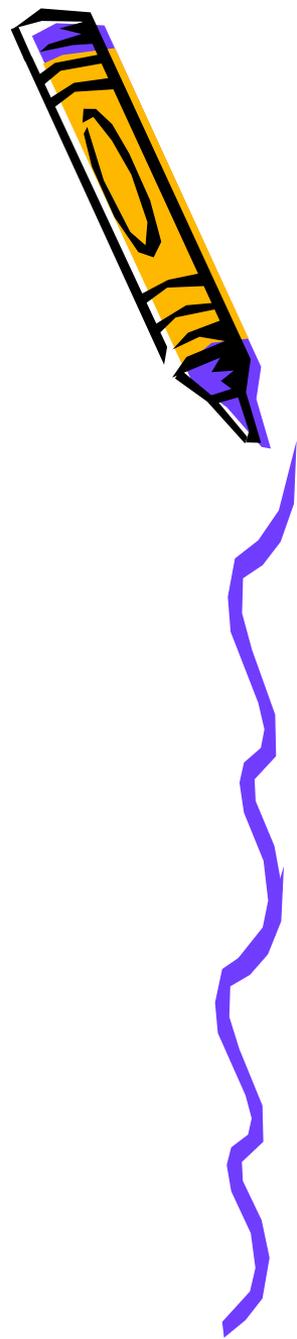


- More than 500cc bleeding after delivery
- Till 6 weeks after delivery
- Early bleeding: 24hr



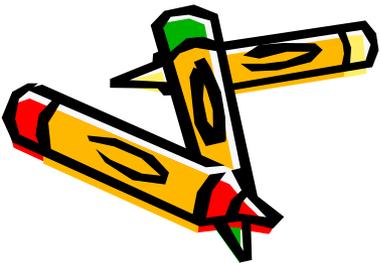
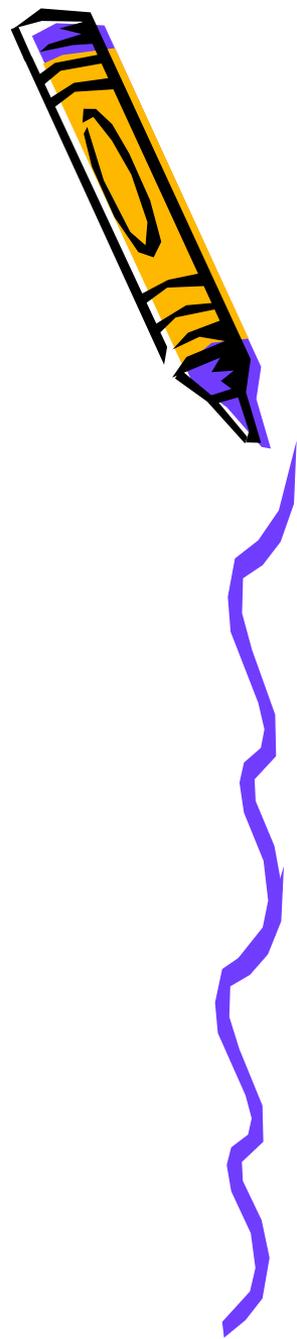
PPH

- PPH is one of the major cause of maternal mortality
- 1-3% of all deliveris



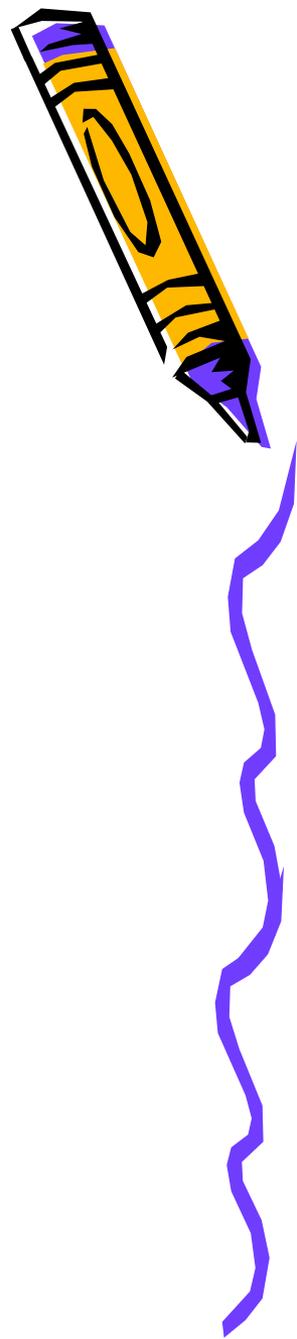
Causes of PPH

- Atonia
- Laceration instrumentation
- Uterine tear C/S
- Retained placenta
- Bleeding tendency



Finding the site of bleeding

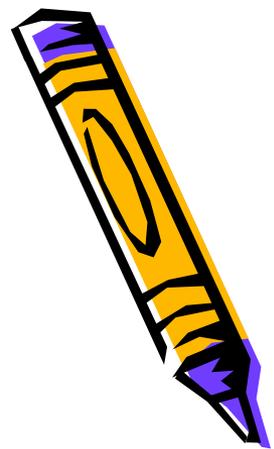
- Ct scan:
 - MDCT
 - Pre and post contrast
- . Ultrasound
 - Color doppler
- .MRI
- .Angiography

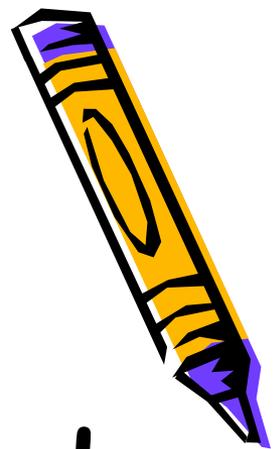


Treatment

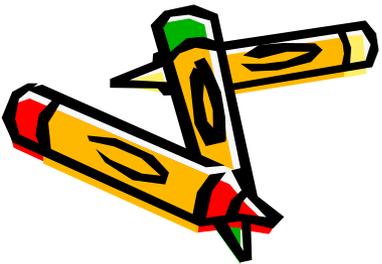
- Admission
- Conservative management
- Fluid and blood replacement
- Uterotonic drugs
- Uterine compression, massage, pack
- D&C

Hysterectomy VS embolization

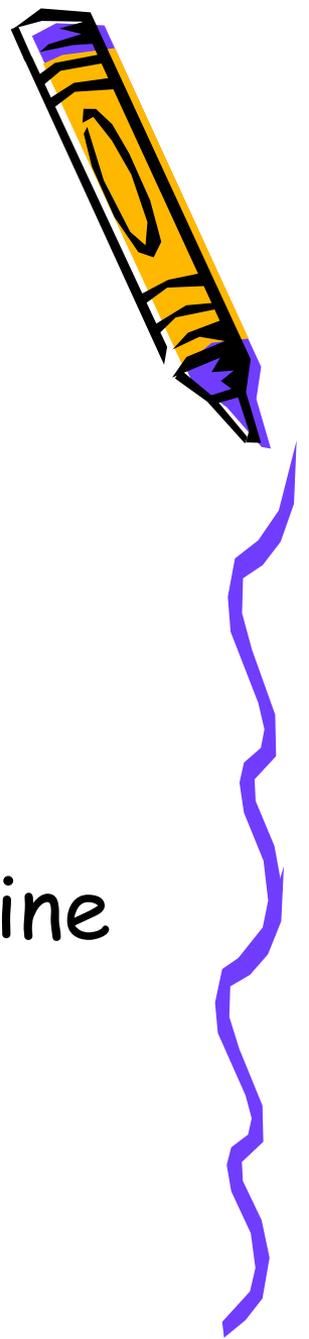




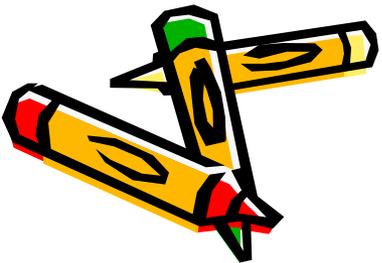
Is arterial
embolization safe and
effective in
comparison to
hysterectomy or not



Decision for doing embolization

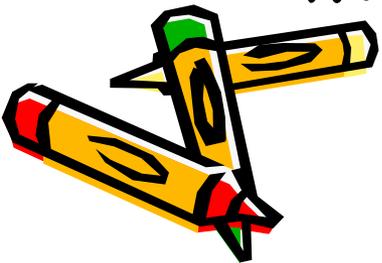


- Bleeding not stop
- Conservative management not respond
- The patient wants her uterus
- Obstetrician didn't ligate the uterine artery

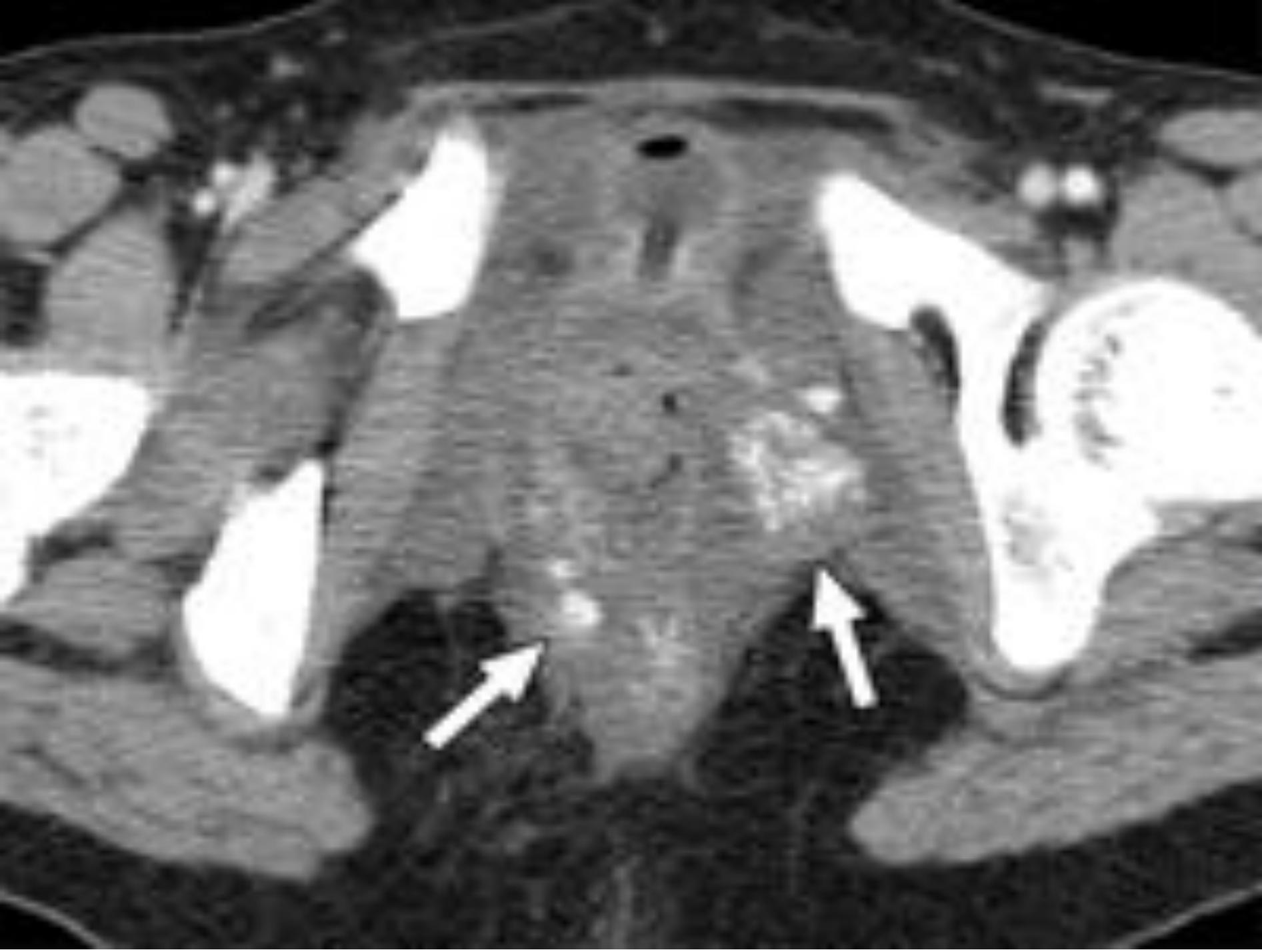


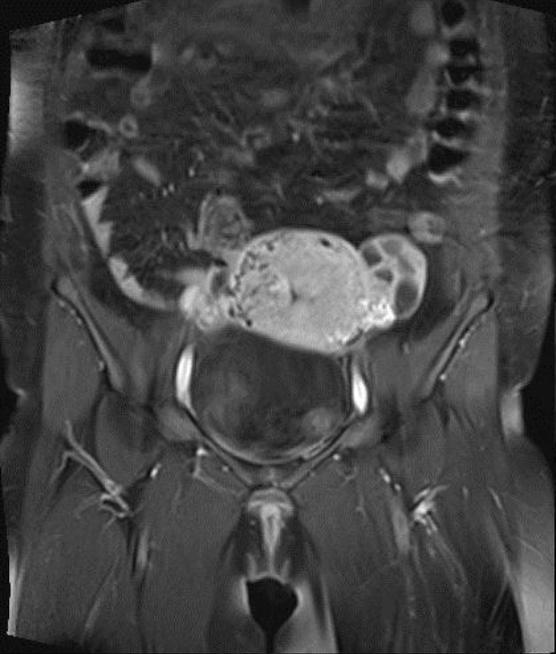
Routin protocol

- Hemodynamic stable: Work up : coagulation profile, sonography, color doppler ,CT angiography, MRI after diagnosis go for angiography
- Hemodynamic unstable: Go dirrectly to OR or Angiography (according to which is available)

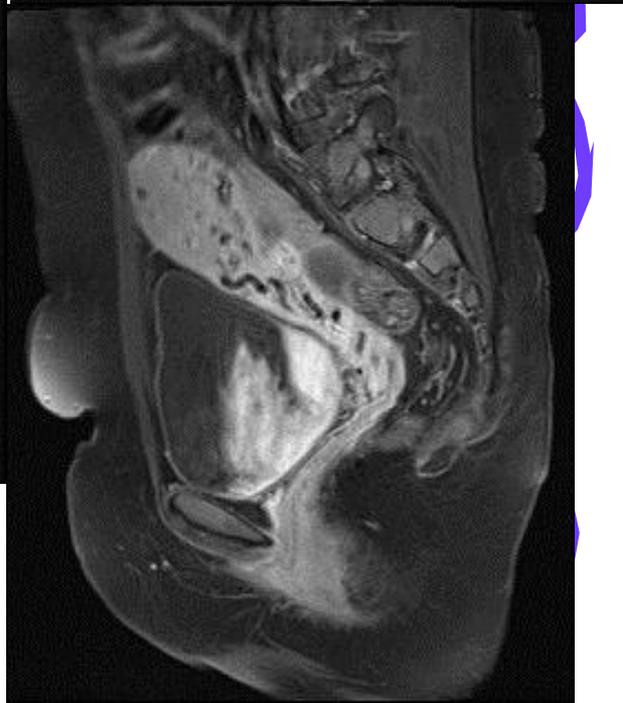
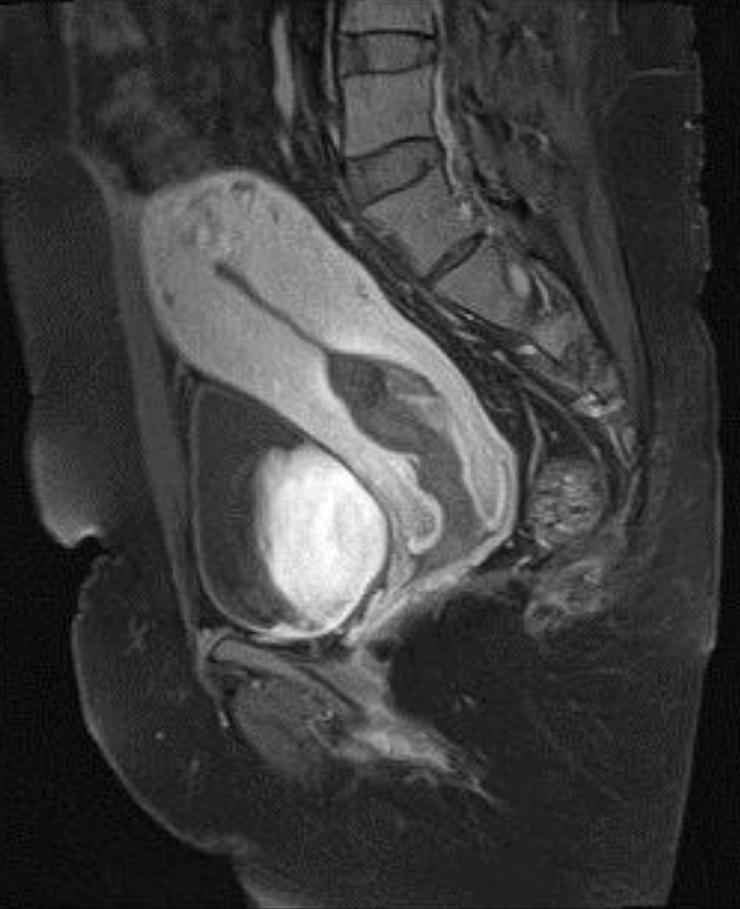
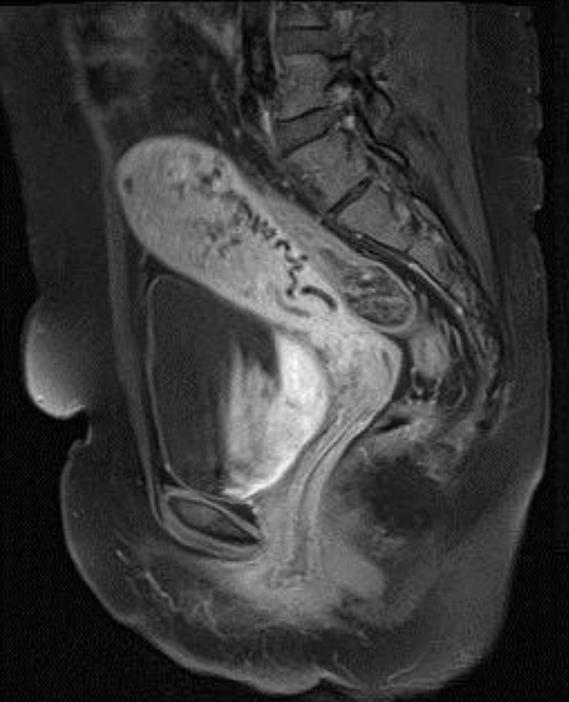




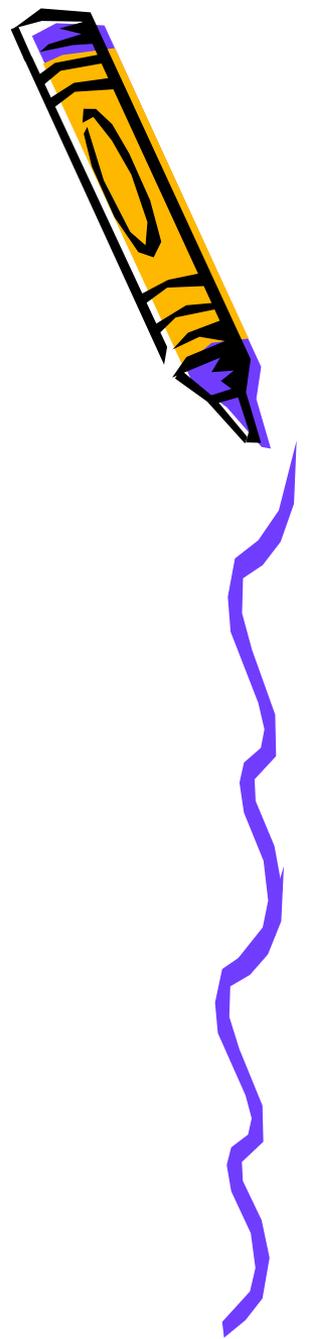




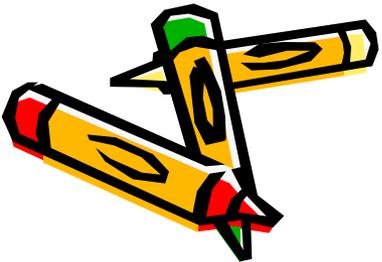
MDT



Angiography

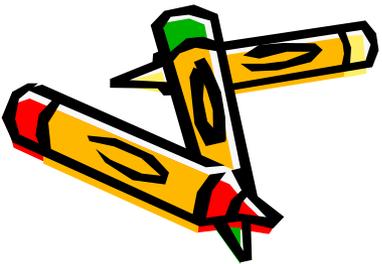
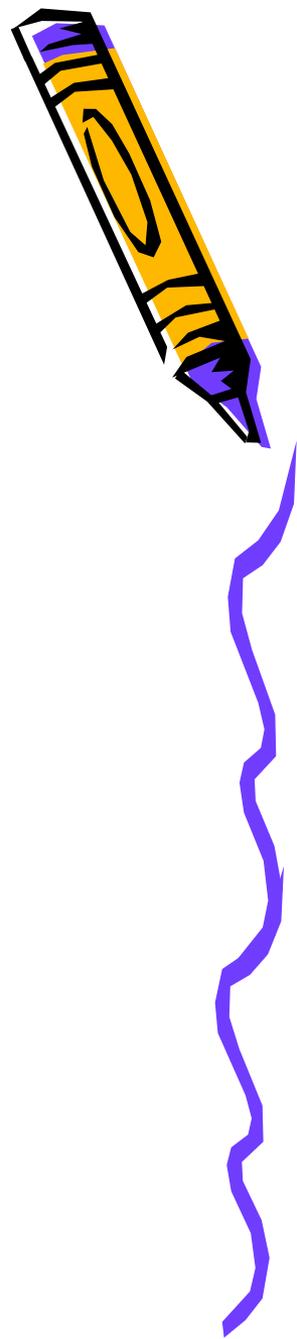


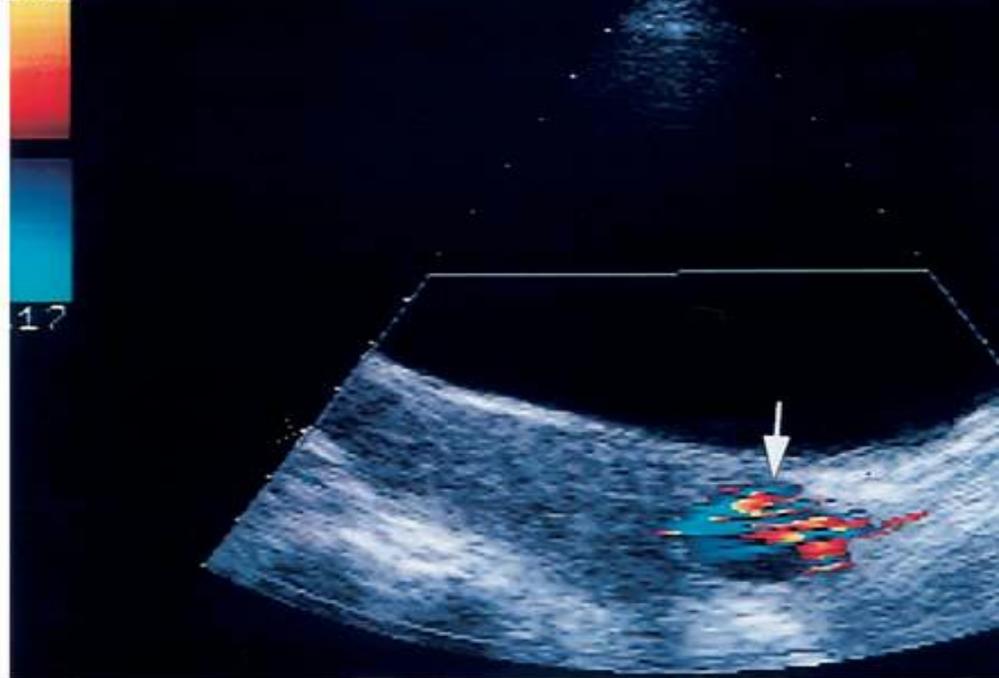
- Unifemoral approach
- Cobra 5
- IIL.... Ant branch
- Microcatheter 2.8 F Terumo
- Uterine artery



Angiographic findings

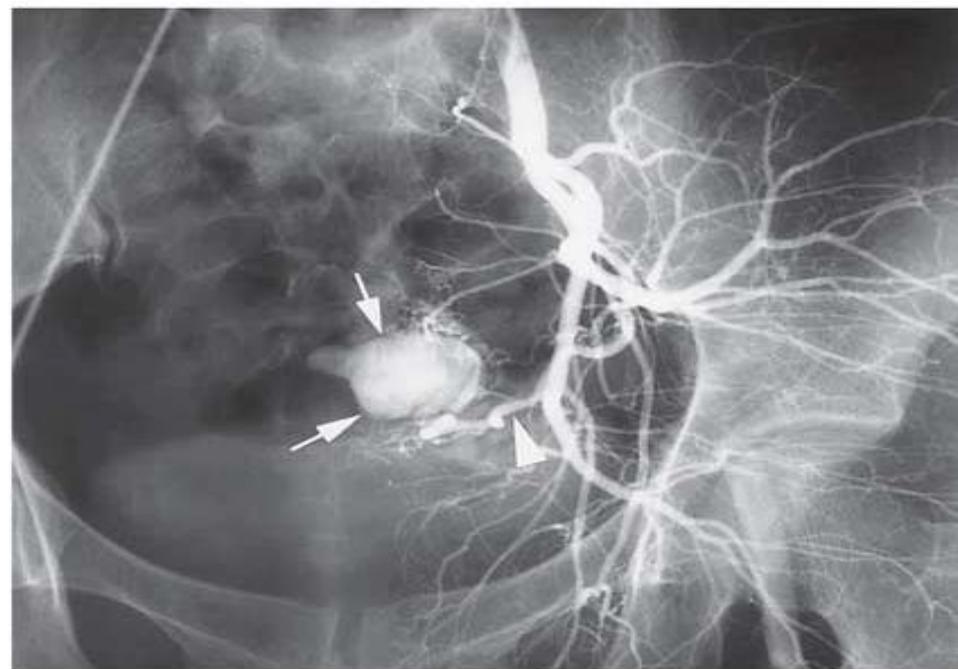
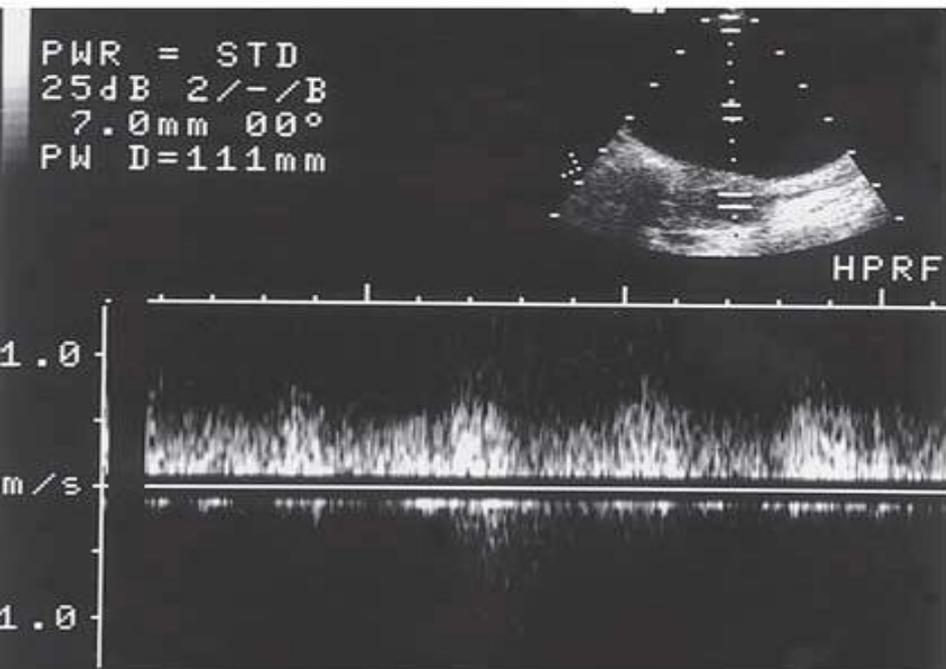
- Extravasation
- False aneurism
- AV fistula
- Abnormal tortuous vessels



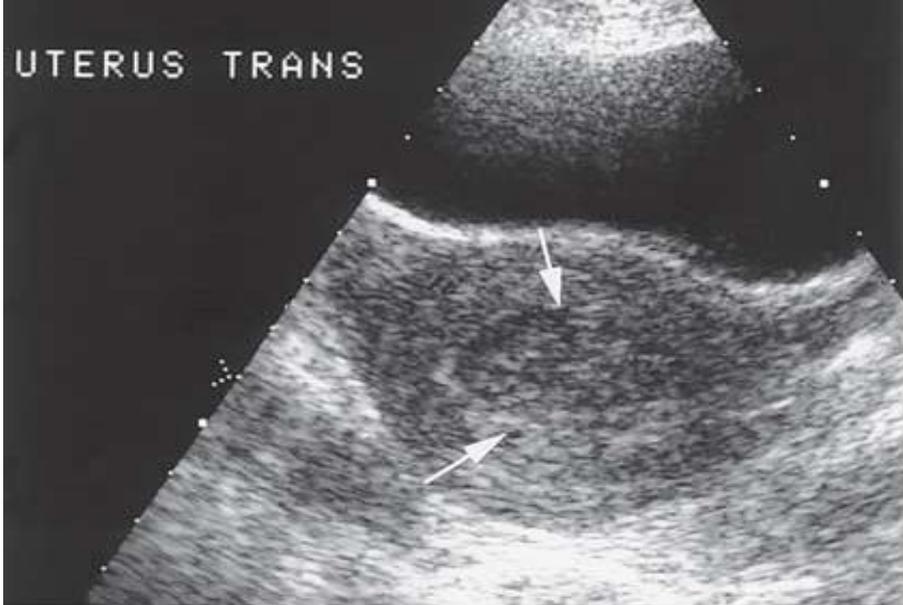


a.

b.

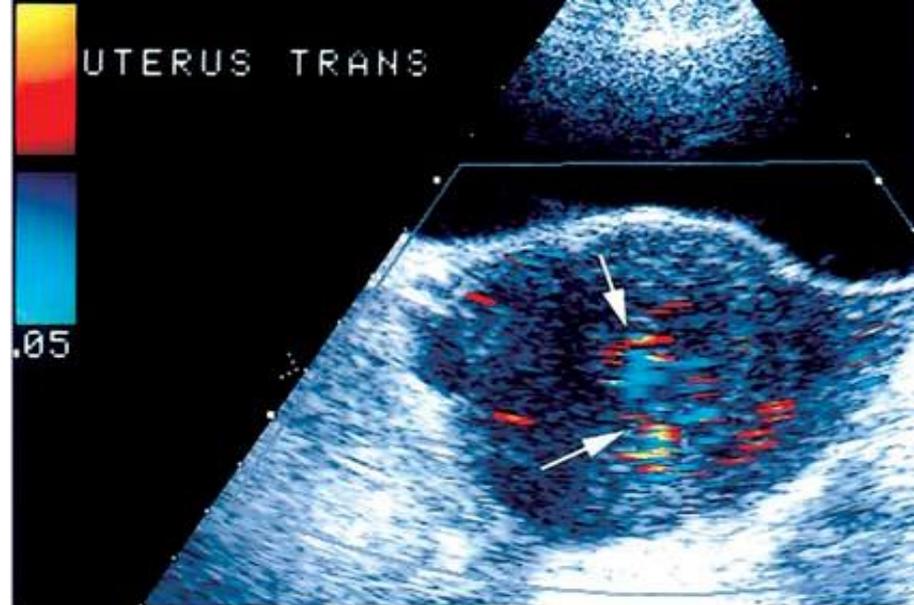


UTERUS TRANS

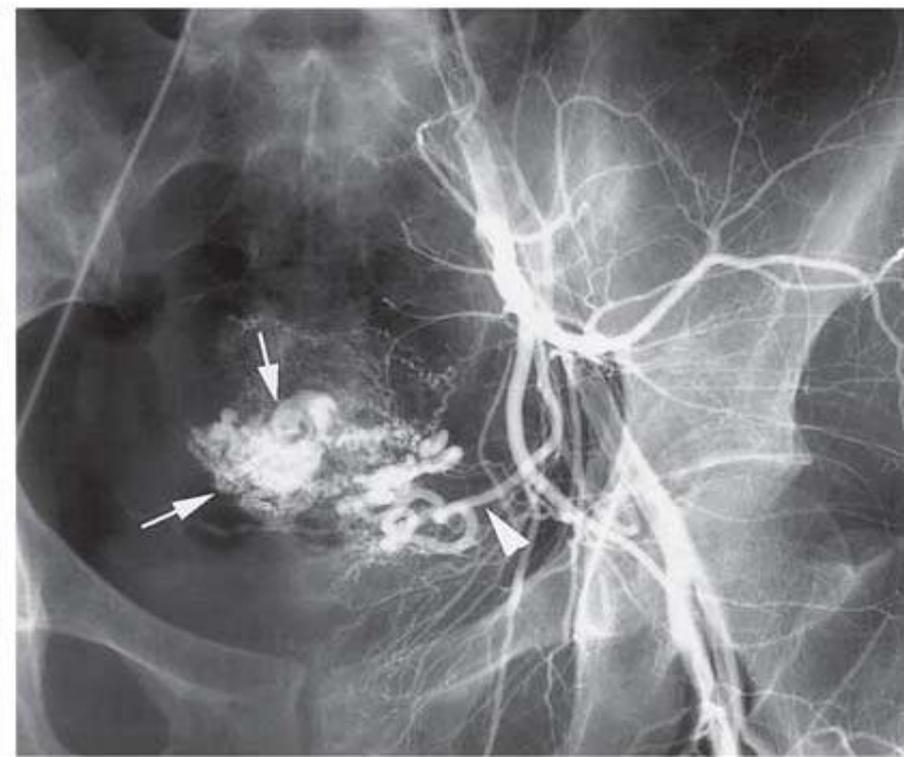
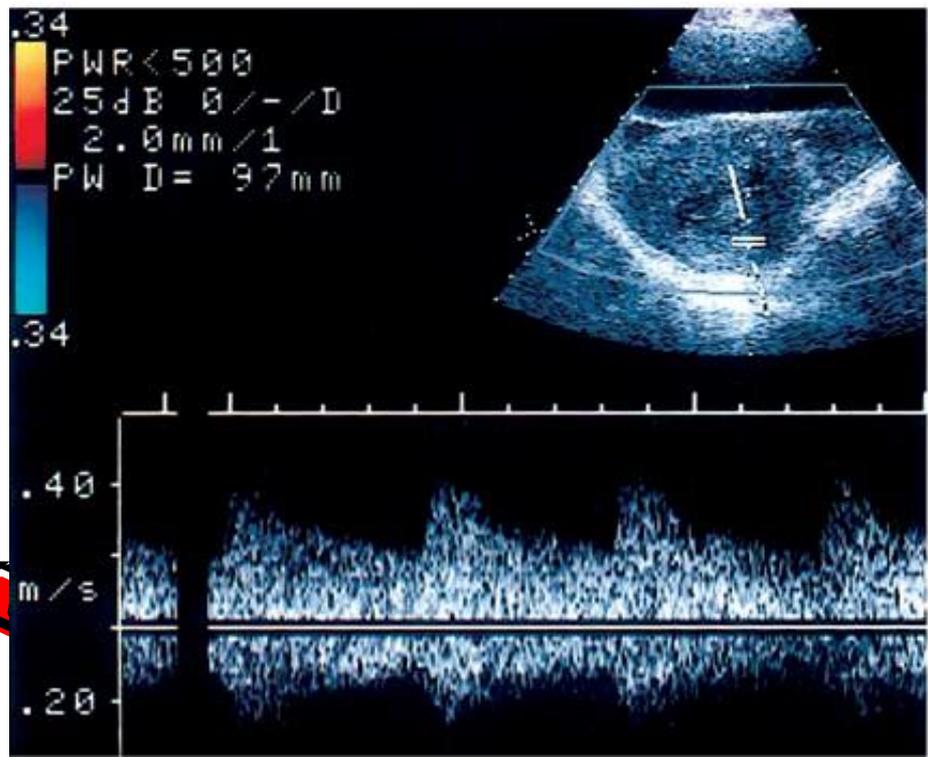


a.

UTERUS TRANS



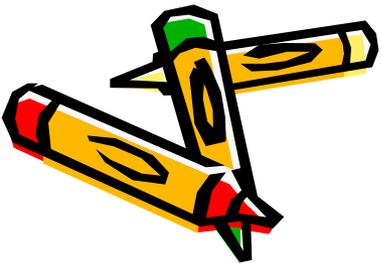
b.

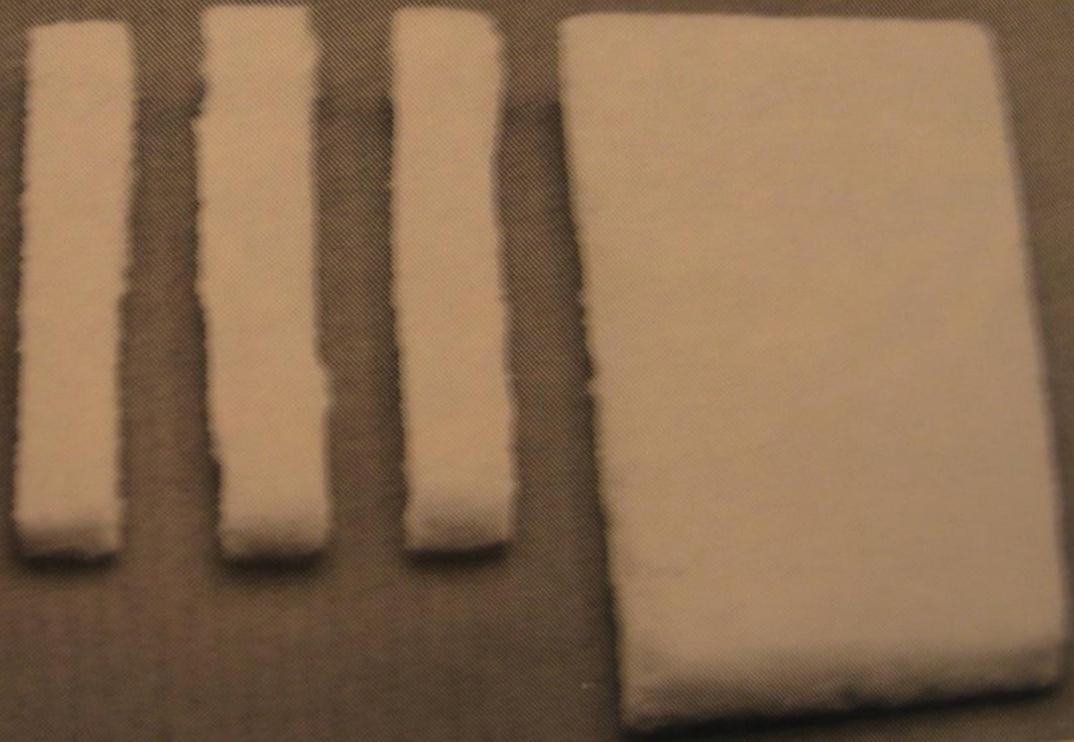


Embolization Agents



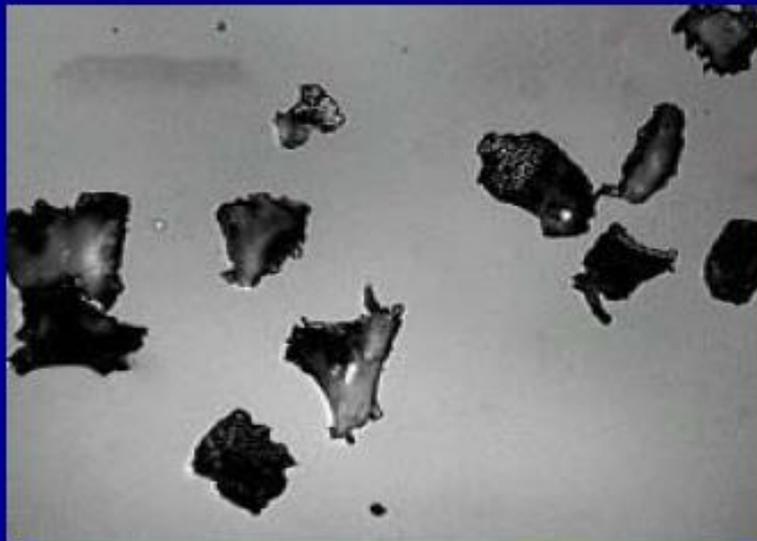
- Absorbable: clot , gelfoam
- Nonabsorbable:PVA , glue ,coil,alcohol
- Baloon





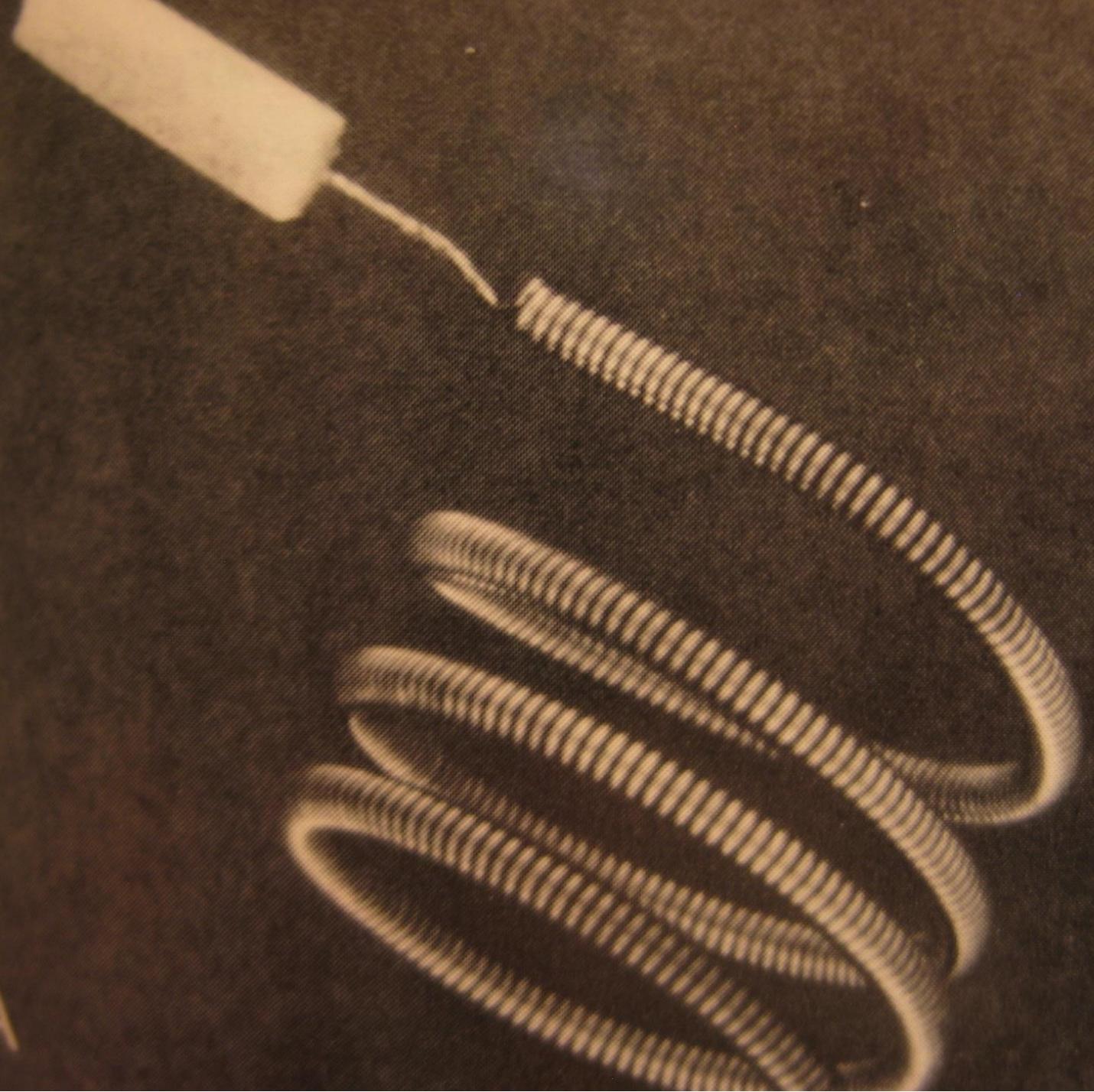


PVA (Polyvinyl Alcohol)



Irregular & Angular



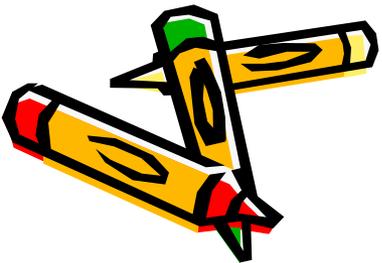


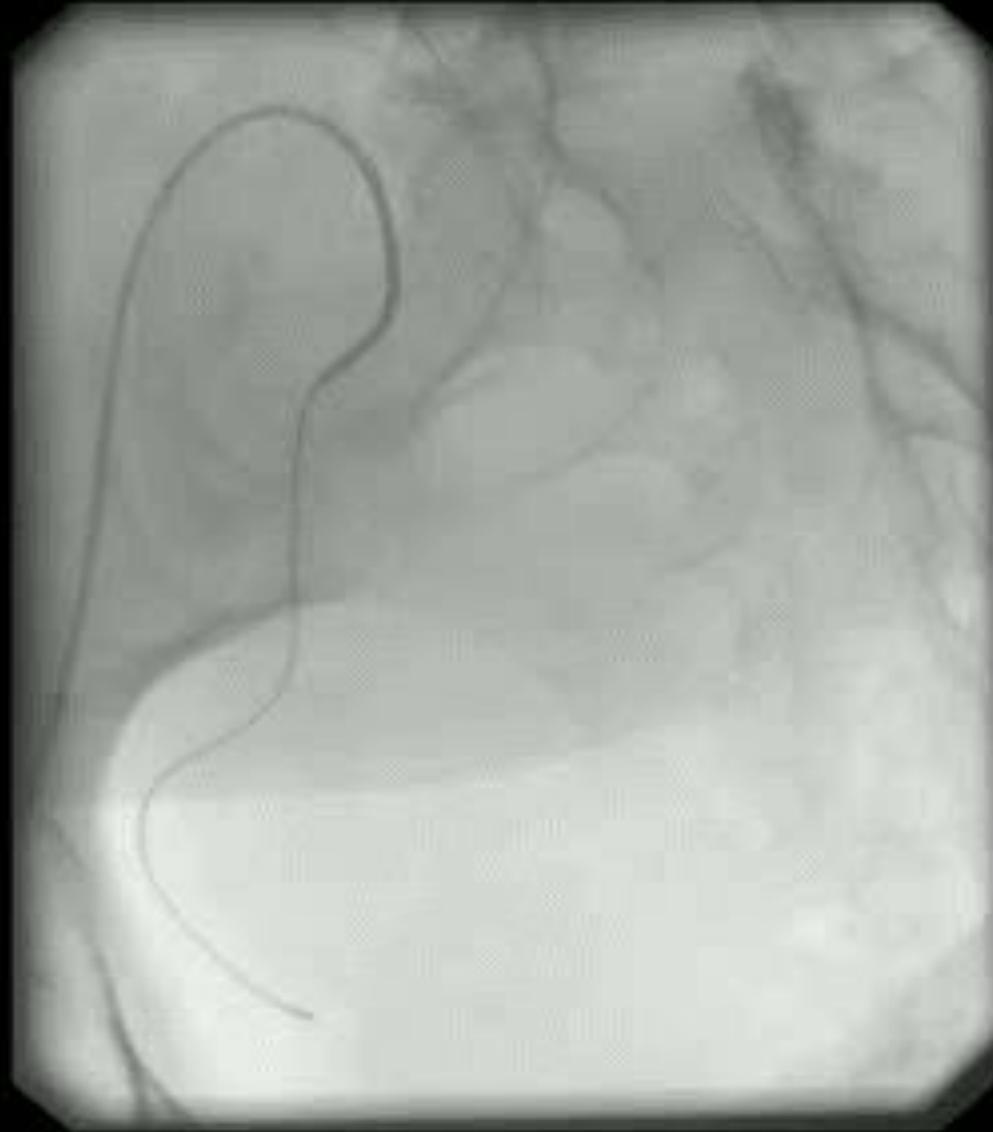
A

25 year old female



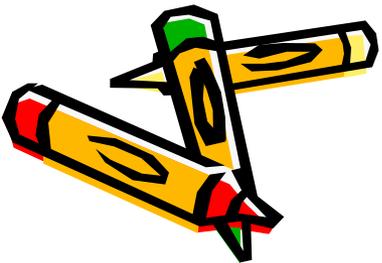
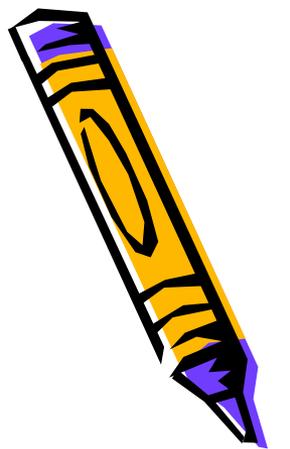
- Severe vag bleeding 2 Hr after NVD
- Rapid shock management
- 3 bags of blood and extensive fluid therapy
- Didn't response to pack and massage
- Refused hysterectomy



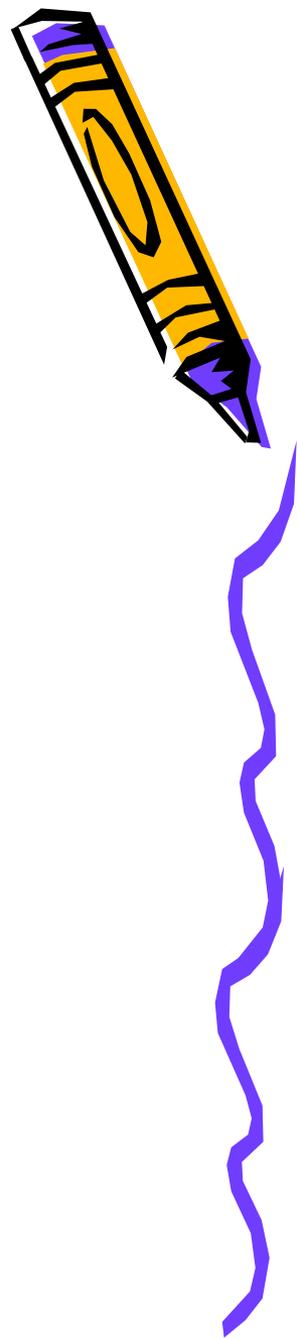


Postprocedure

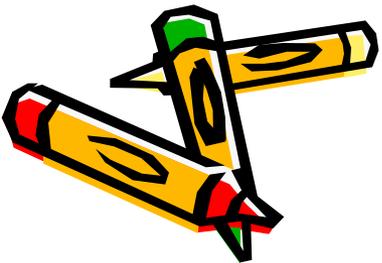
- Stop bleeding
- Discharged after 3 days
- Good condition

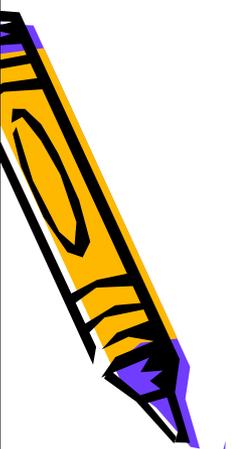


28 yo postpartum bleeding

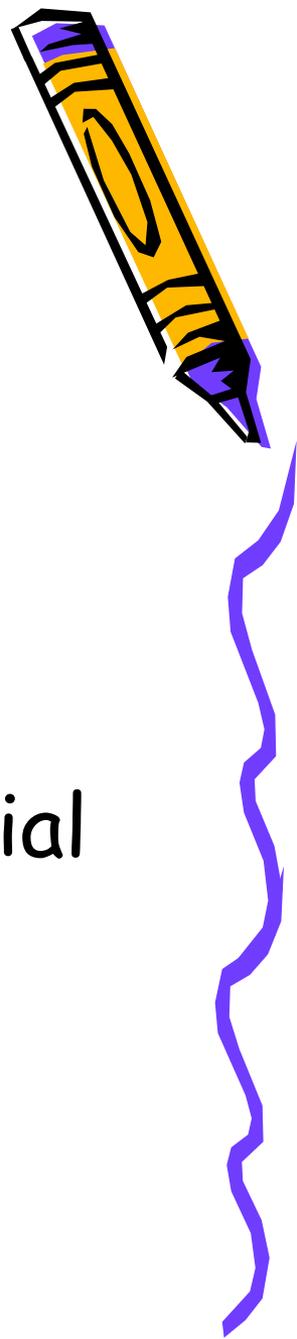


- 3 days postpartum
- Didn't respond to supportive care
- 11 packs of blood
- Came in almost shock state
- Angiography performed soon

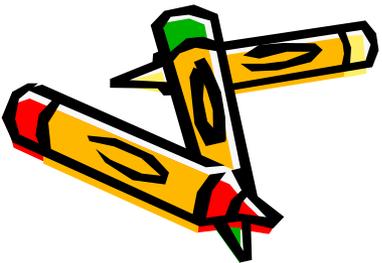




21 yo virgin girl with 2m severe intermitant bleeding



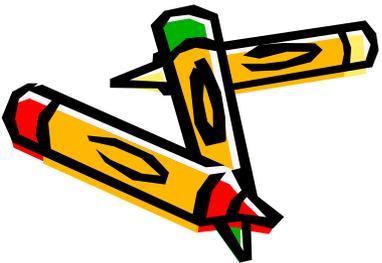
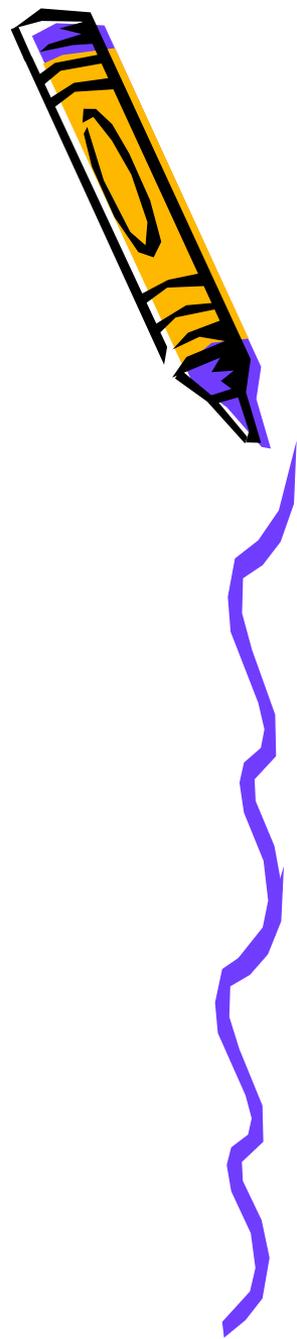
- Hemodynamically stable
- Color doppler musaic pattern
- MRI abnormal vessles in endometrial cavity and myometrium
- Angiography performed



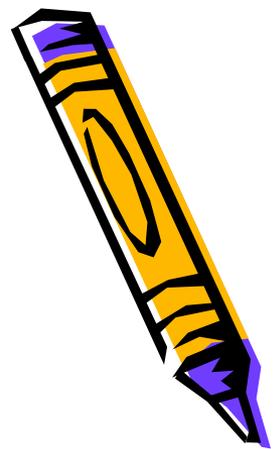


56 yo hysterectomy due to endometrial malignancy

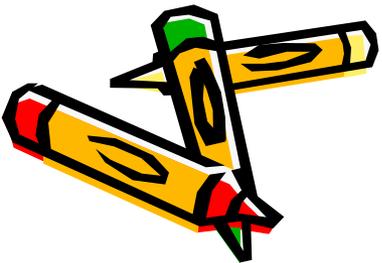
- Internal bleeding
- Coagulation profile was borderline
- Platelet 60000



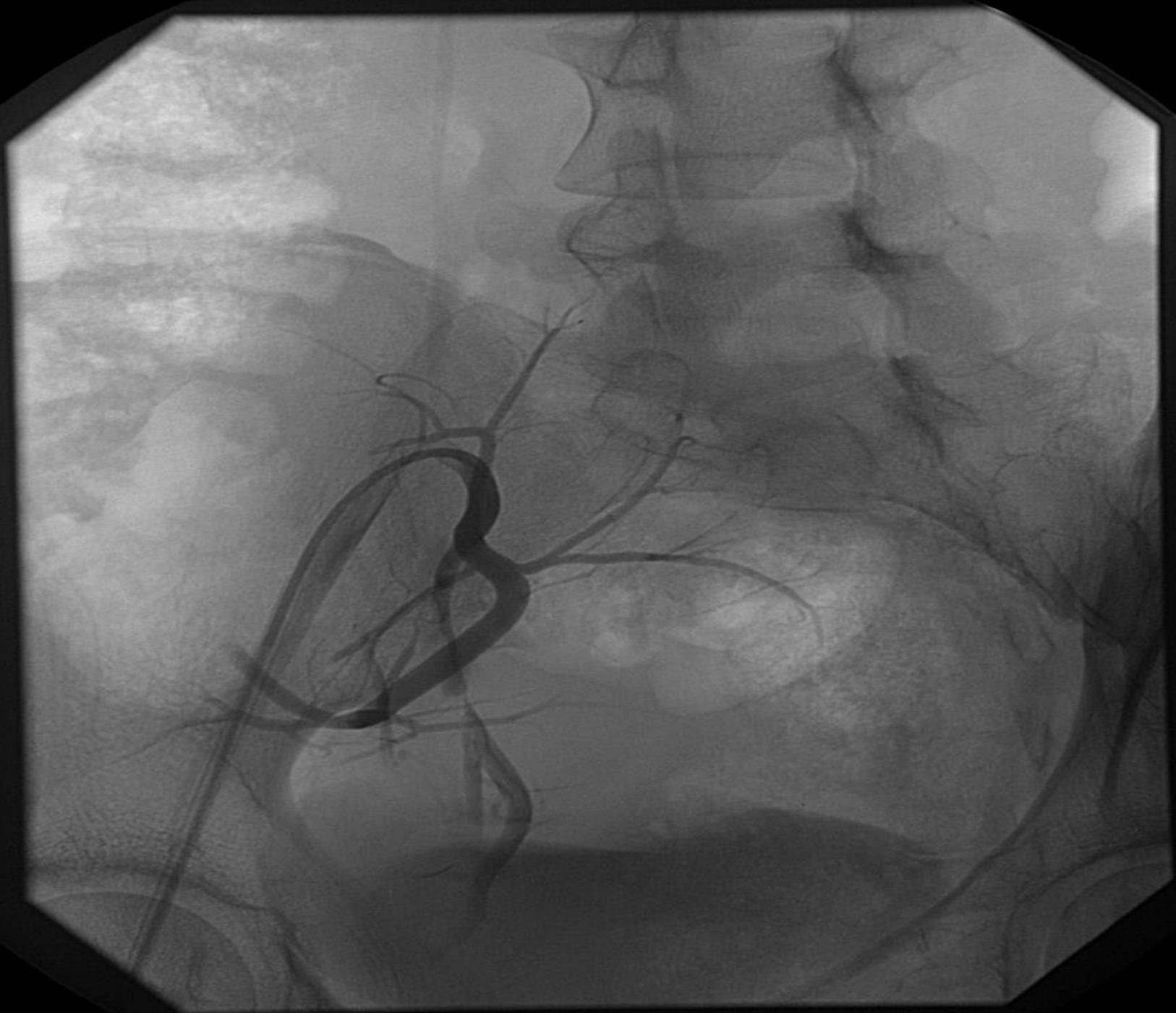
23 yo



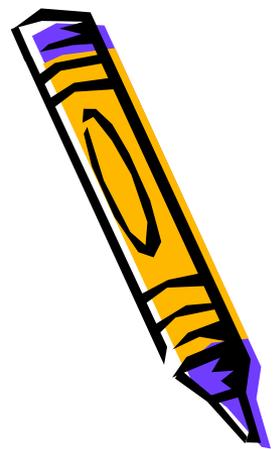
- Previous UFE
- Return of symptoms after 2 months



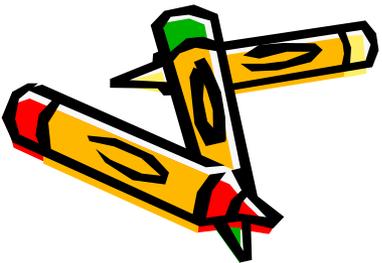




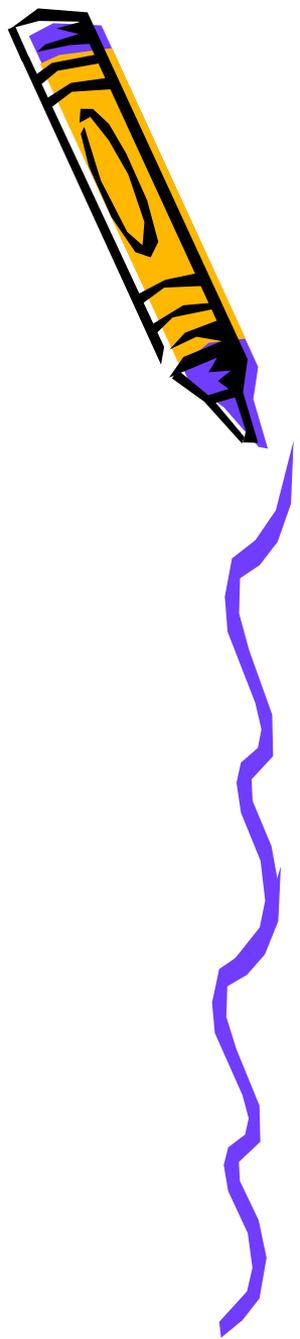
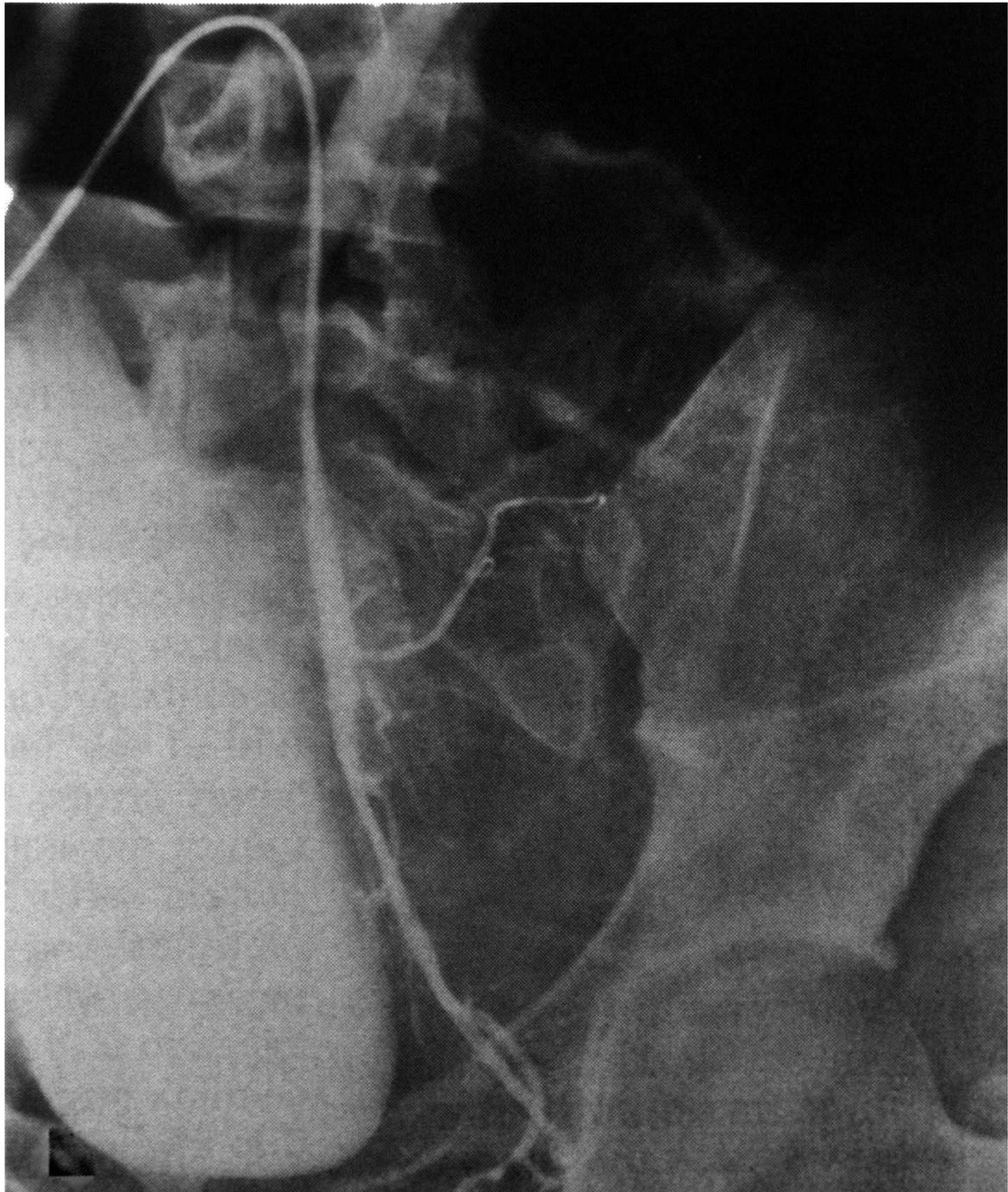
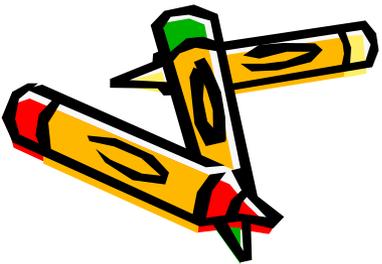
49 y/o large mass after hysterectomy



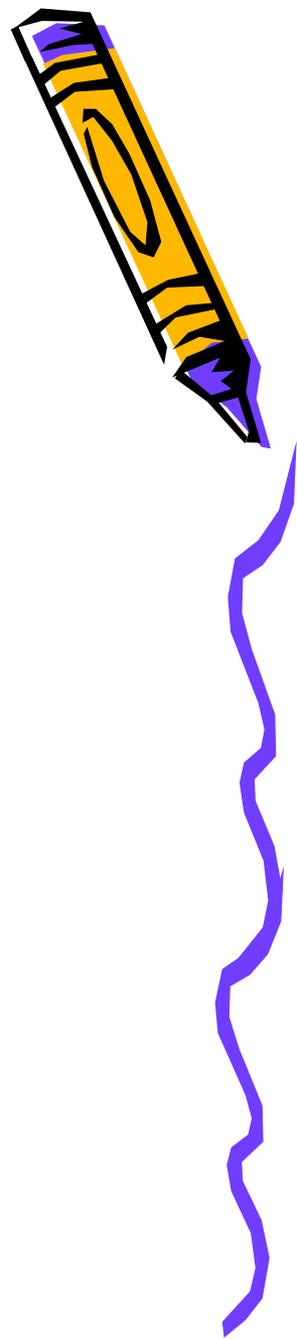
Severe pain in LLQ and fever
Sonography large hematoma
Color doppler aneurysm
Angiography performed



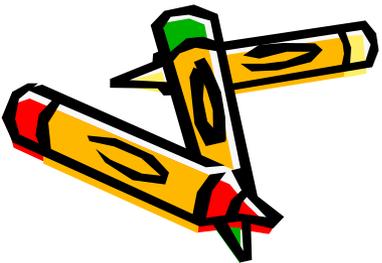




Causes of failure of angiography

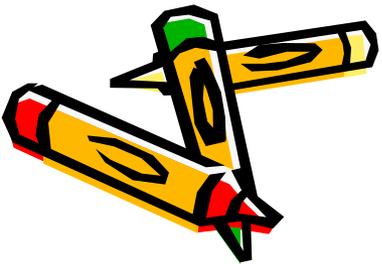
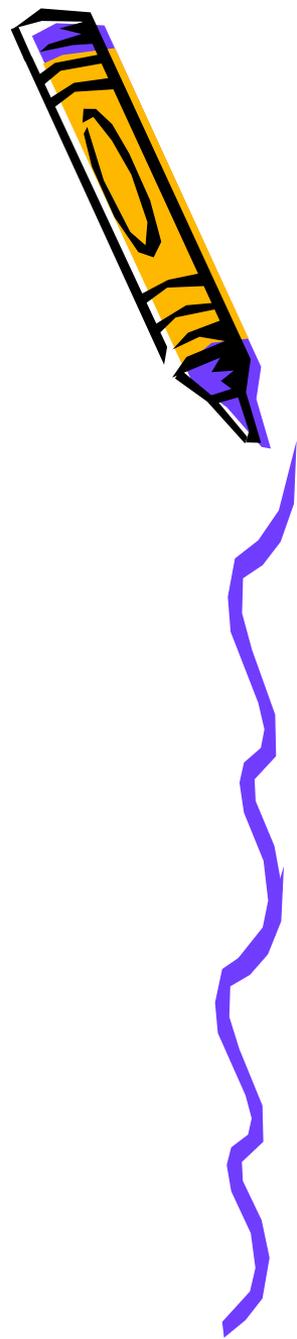


- Prior hypogastric A. ligation
- Spasm
- Intimal damage
- Otherwise angiography and embolization is very easy in young normal arteries

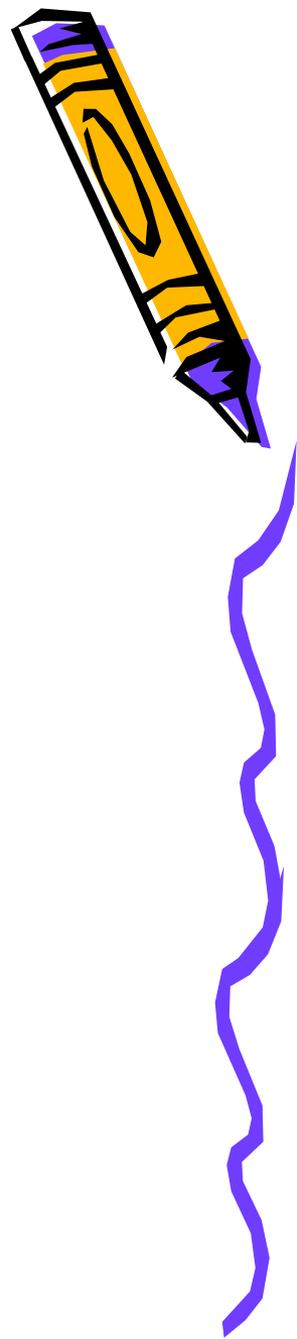


After embolization

- Menses
- Fertility
- Well being

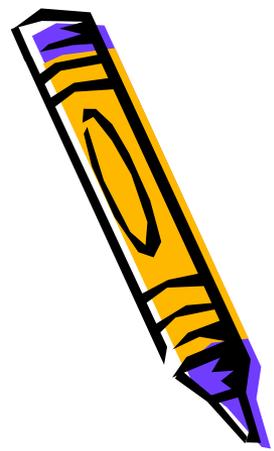


Complications



- Muscle pain
- Neurological damage
- Bladder and vaginal ischemia and necrosis(post radiation or elderly)
- Damage to iliac artery
- Ovarian failure
- Renal toxicity





Embolization is a safe and reliable and effective method to treat severe vaginal bleeding in selected patients

