



Outline of Talk

- Role of IR in palliative care
- IR procedure in palliative treatment
 - Ablation for pain control
 - Drainage procedure (PTBD, PCD)
 - Other IR procedure in palliative care
- Conclusion

Introduction

- Palliative care is interdisciplinary medical treatment.
- Surgery, Medical oncologist, Gastroenterologist, Radiation oncologist, Interventional radiologist, Anesthesiologist
- Interventional Radiologist = radiological techniques to treat patient with cancer

IR procedure in Palliative Care

- Pain control/ Ablation
- Drainage
- Line/ Tube
- Treatment emergency condition such as bleeding

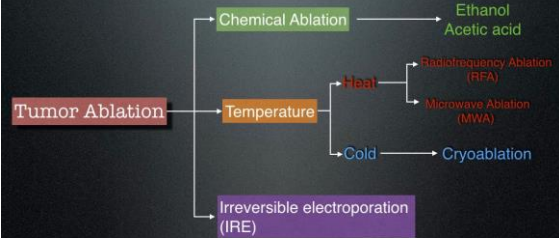
- 85% of patient with primary cancer has bone metastasis → 50% experience with intractable pain
- Tx. = Analgesic drug, Radiation, Chemotherapy, Surgery
- Standard of care for local treatment of bony metastasis is external beam radiation

- About 10-20% require retreatment
- Time to treatment respond is typically 2-4 weeks
- Maintain multiple treatment → interruption of their systemic chemotherapy regimens

Ablation

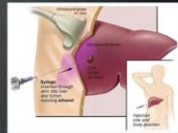
- Role of IR in palliative of pain has evolve recently years → Ablative technique/ device
- Tx pain osseous metastatic disease
- eg. percutaneous image-guided thermal ablation with or without cementoplasty of bone tumor

Image-Guided Tumor Ablation



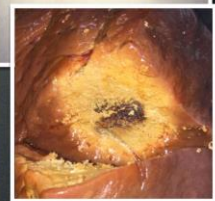
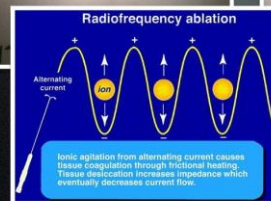
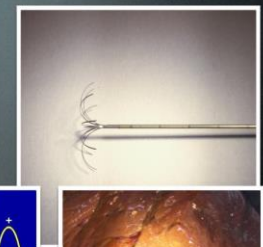
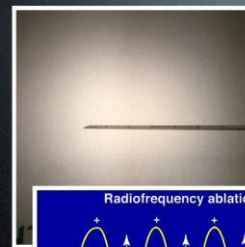
Chemical Ablation

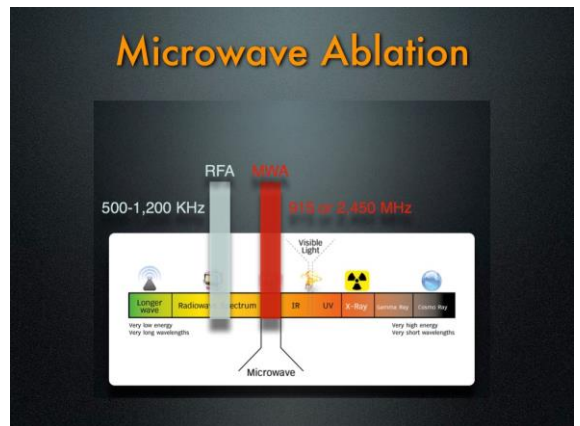
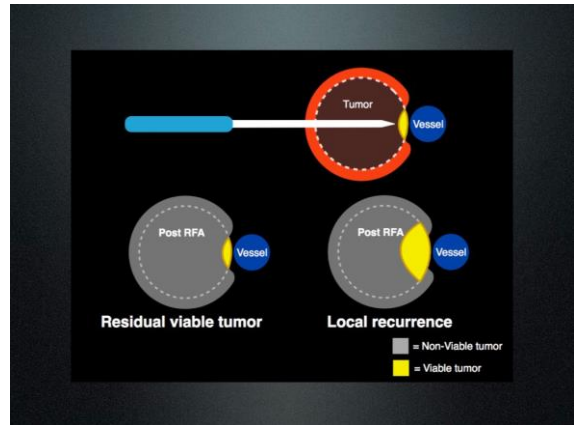
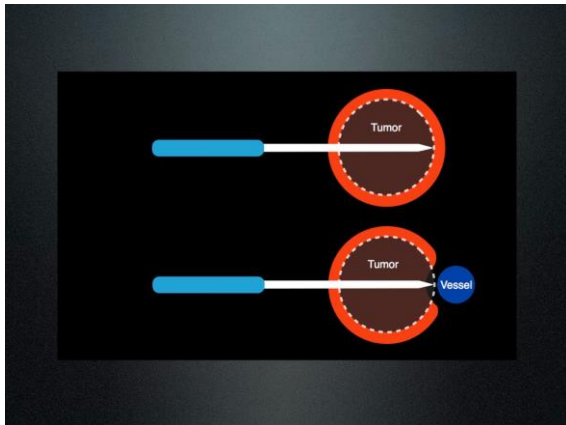
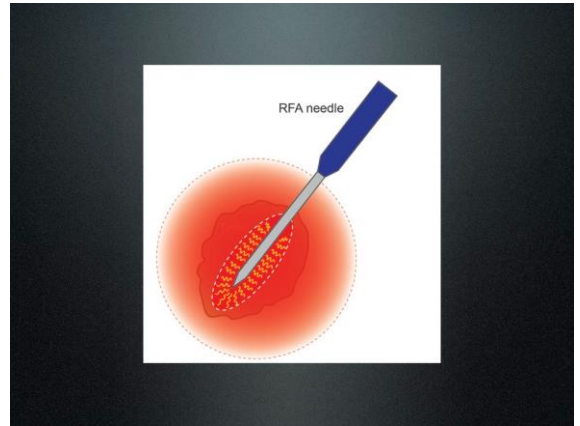
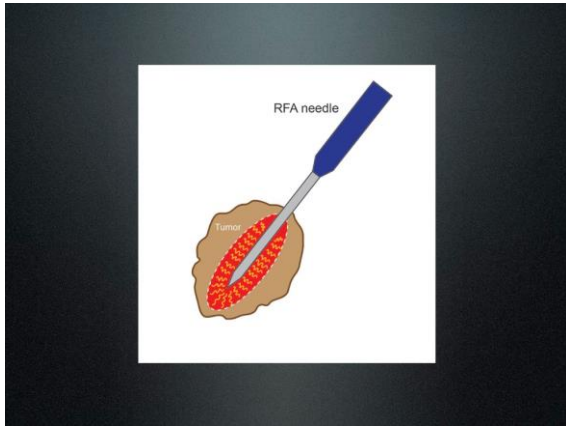
- Ethanol injection => Low cost
- Decreased effectiveness in larger lesion
- Inhomogeneous distribution

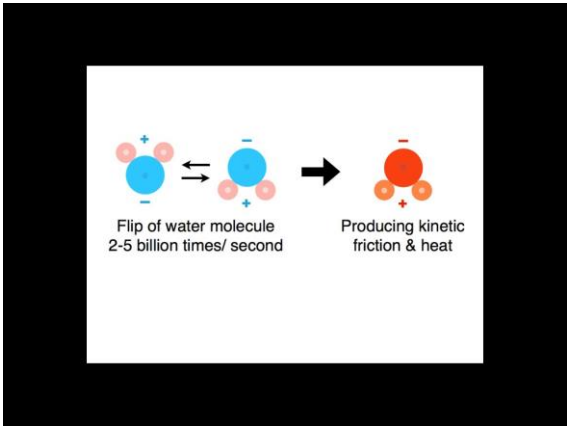
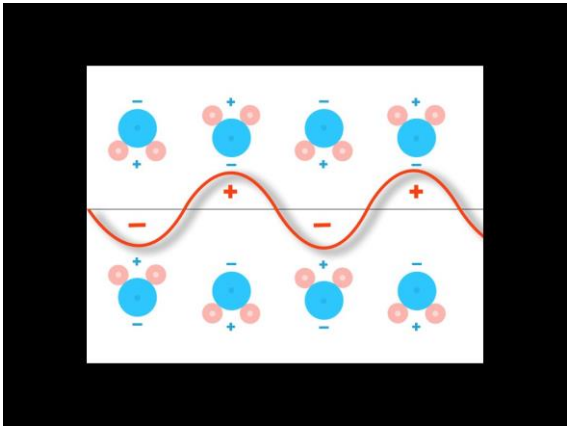
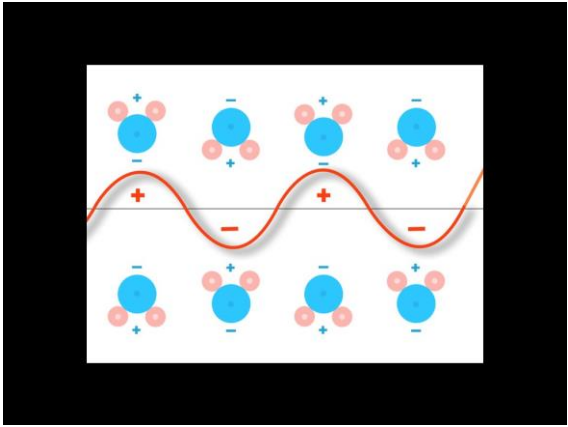
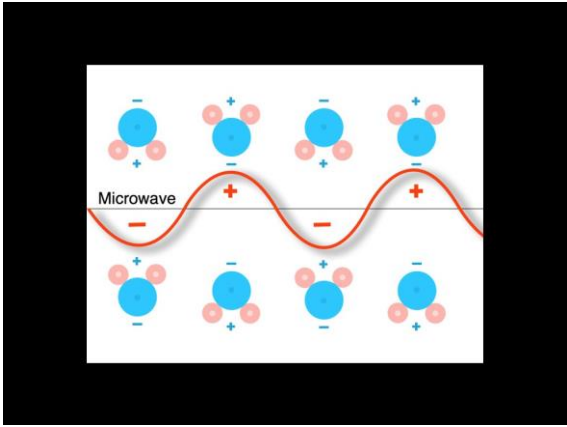
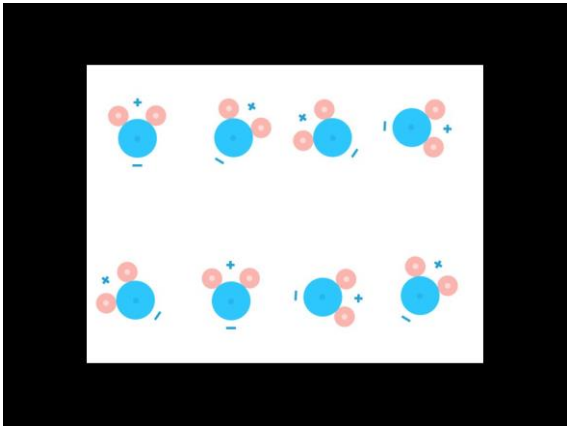
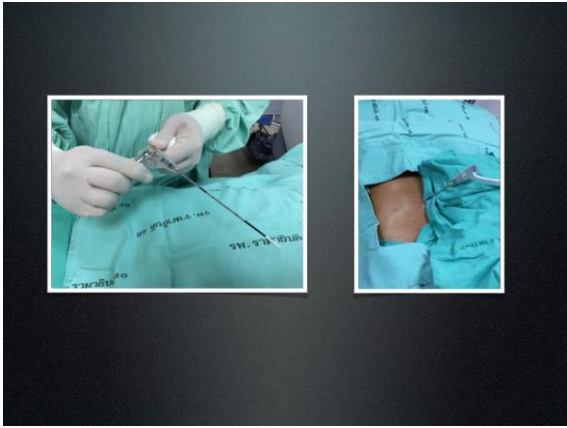


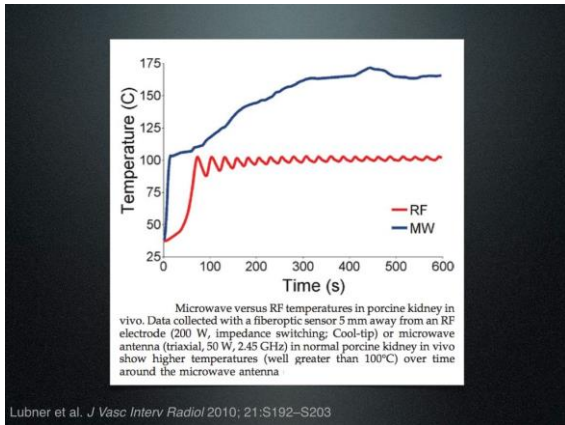
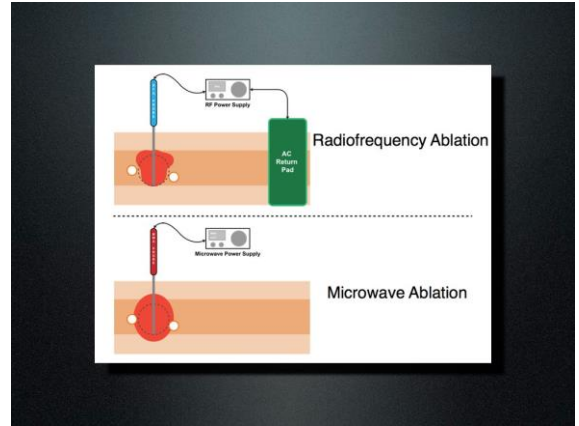
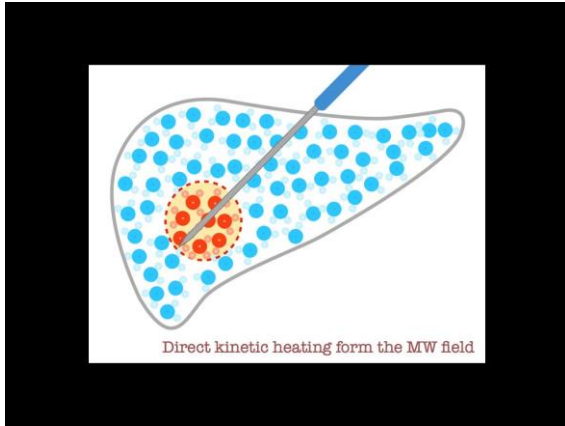
Thermal Ablation

- Effective decreased in large size of tumor
- Not recommended in larger than 5 cm
- Limitation → location, size, vicinity to major vessels, adjacent organ





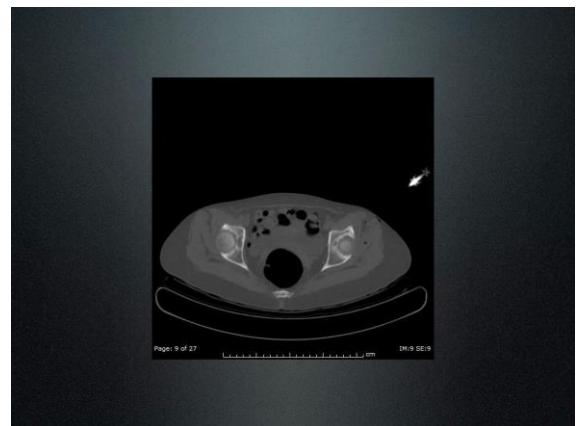
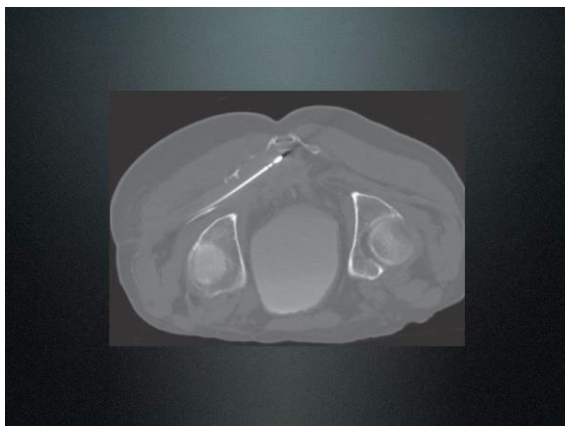


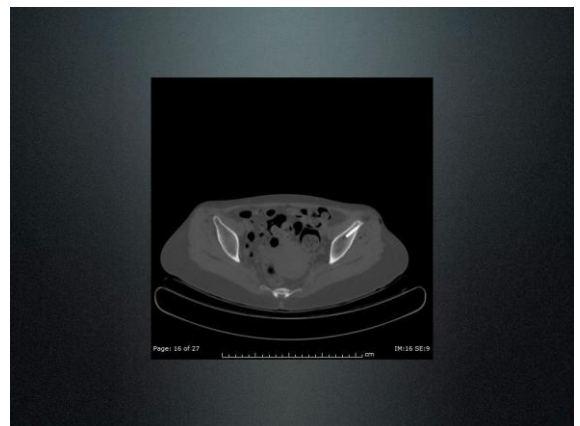
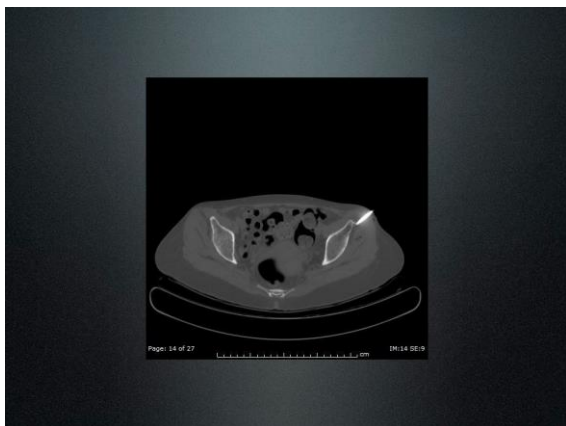
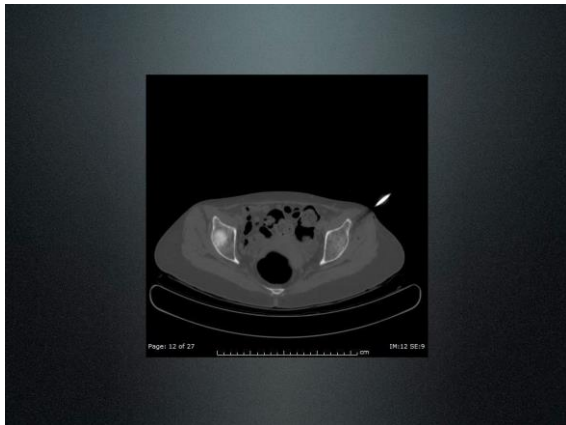


RFA VS MWA

In theory, MWA should have advantages over RFA

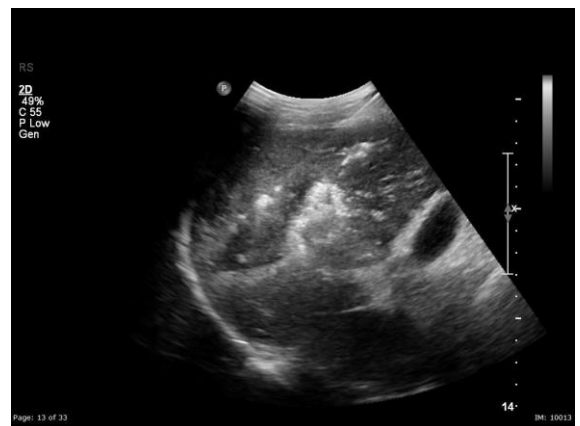
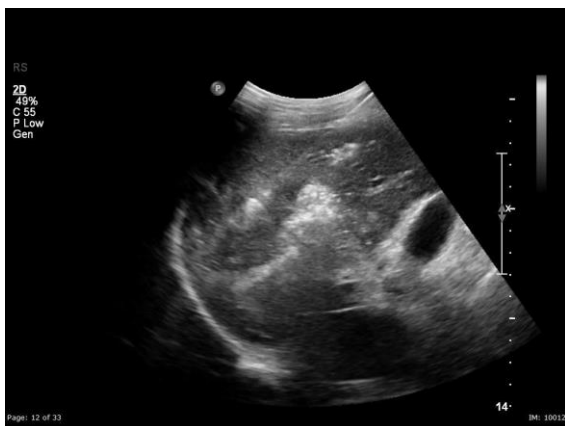
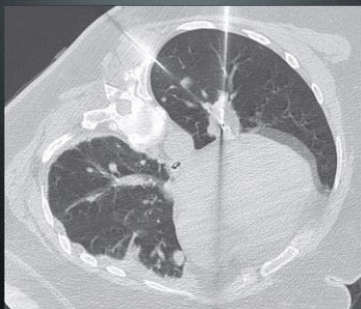
- Improve conductivity
- Higher intratumoral temperature
- Faster ablation times
- Lager ablation volume
- Less heat-sink effect

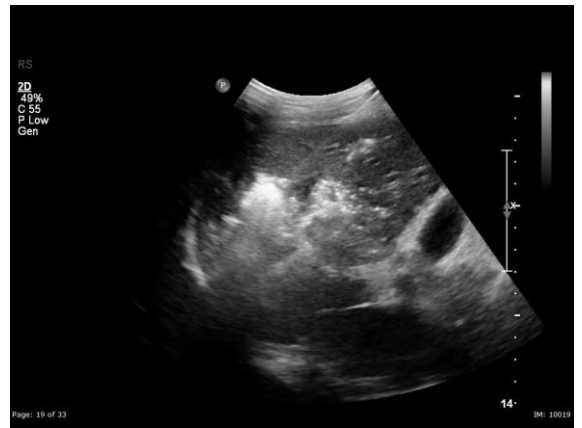
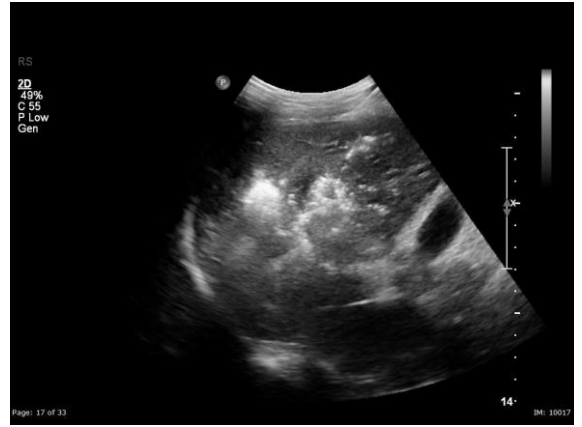
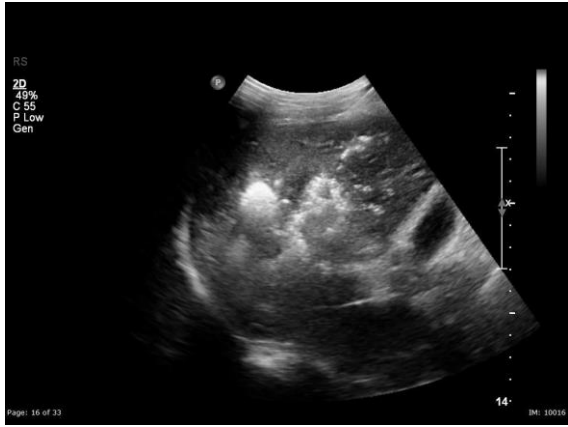
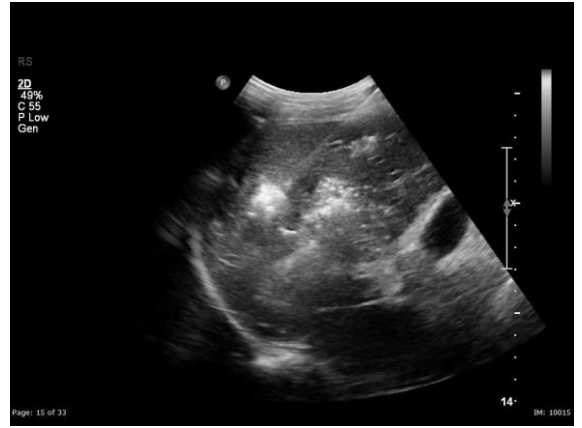
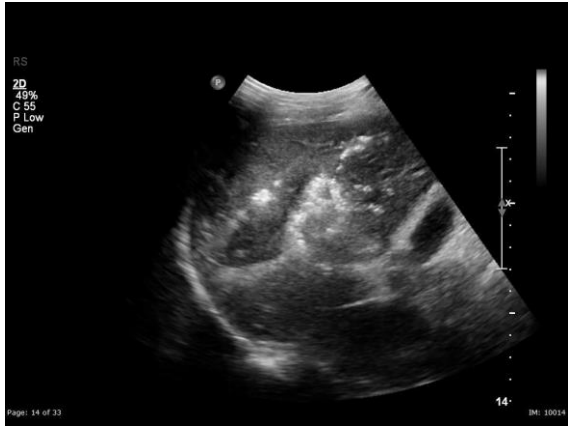


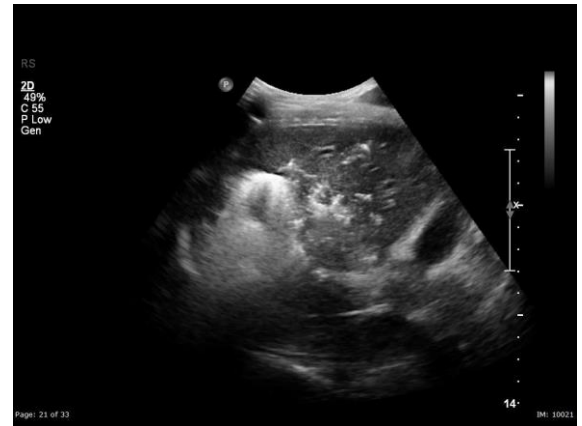
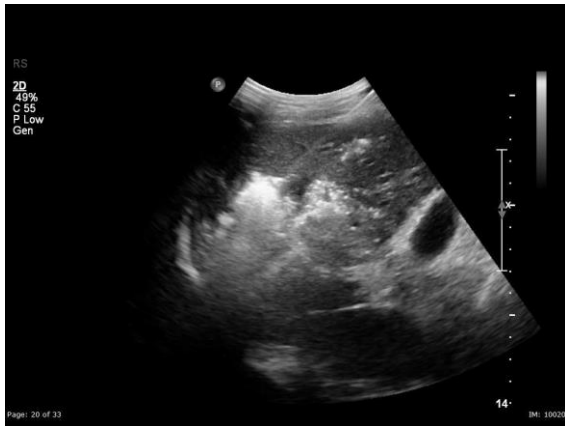


- Multicenter trial (Callstrom et al.)
 - 62 pt.
 - 95% significant pain relief
 - 2 points or more decrease in worst pain in a 24-hour period

- Percutaneous imaging-guided thermal ablation is safe and effective option for painful metastatic disease







Drainage Therapy

Malignant Pleural Effusion/Ascites

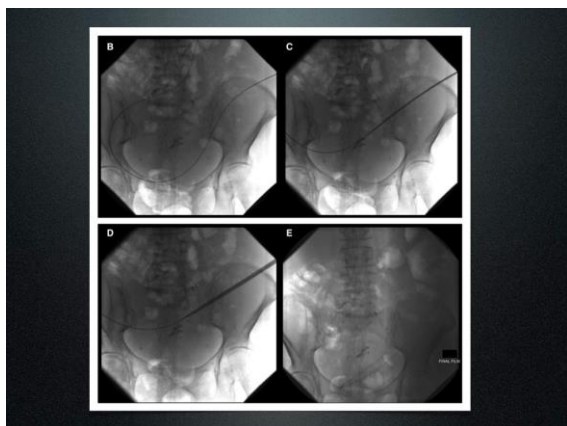
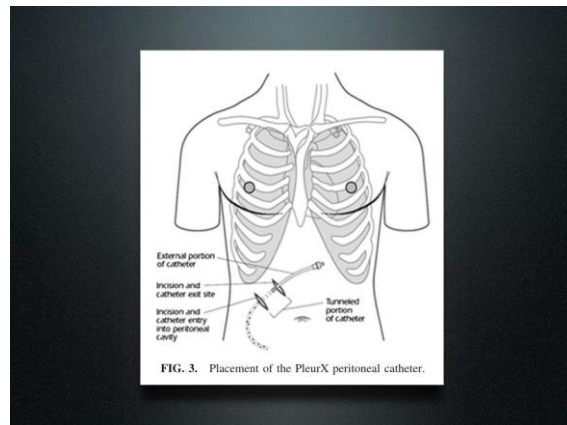
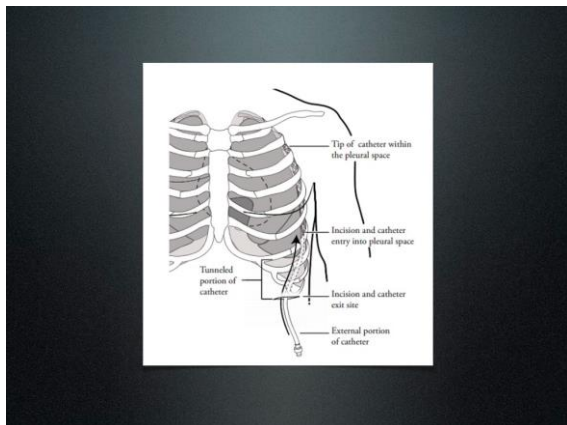
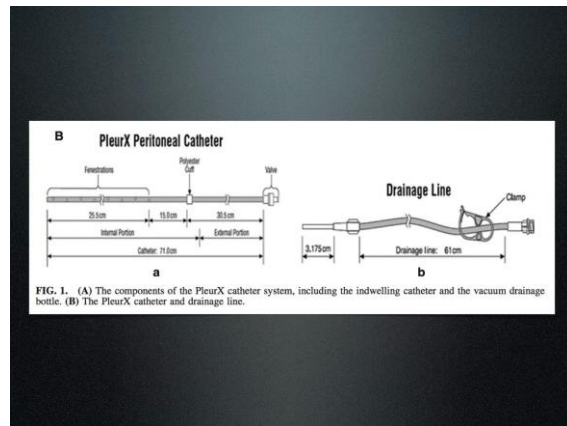
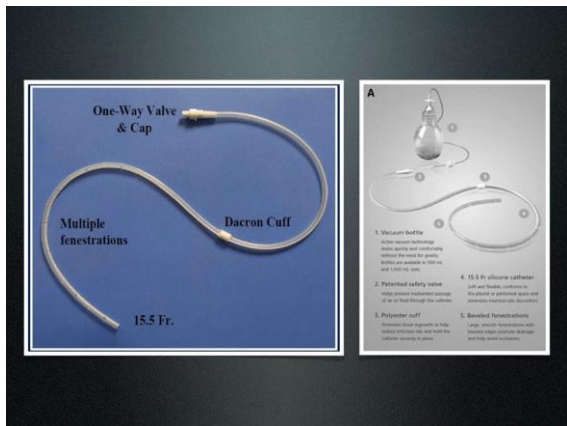
- The most distressing of advance malignancy is development of symptomatic pleural effusion or ascites.
- Impact life span and quality of life
- Drainage of this fluid and prevention of its recurrence can dramatically impact both on the quality of life and life expectancy

- Several treatment options including
 - Intermittent outpatient thoracentesis
 - Placement of a pleuroperitoneal shunt
 - Insertion of a 28 Fr chest tube with instillation of a pleural sclerosing agent (doxycycline, talc, bleomycin, etc)

IR treatment of effusion/ascites

- Image-guided Aspiration
- Percutaneous Drainage
- Tunneled Drainage Catheter Placement for Refractory Ascites/ Effusion





Tunneled Drainage Catheter Placement

- Drains remained in place and patent for a mean of 113 days (range, 5 to 365 days)
- Low procedural complication
- Low infection rate

Tapping CR, et al.: PleurX drain use in the management of malignant ascites: Safety, complications, long-term patency and factors predictive of success. Br J Radiol 2012;85:622-629.

Percutaneous Biliary Drainage (PTBD)

Biliary Obstruction

- Endoscopic drainage procedure are easily performed without bleeding risk of percutaneous puncture.
- Percutaneous intervention is still useful when endoscopy fails or unlikely to success.
- PTBD = Percutaneous Transhepatic Biliary Drainage

การใส่สายระบายน้ำดี
PTBD (Percutaneous Biliary Drainage)

ตับ
ถุงน้ำดี
ท่อน้ำดี
สายระบายน้ำดี (PTBD)
ถุงเก็บน้ำดี

PTBD is a percutaneous therapeutic procedure which leads to the drainage of the obstructed bile duct system.

Indication of PTBD

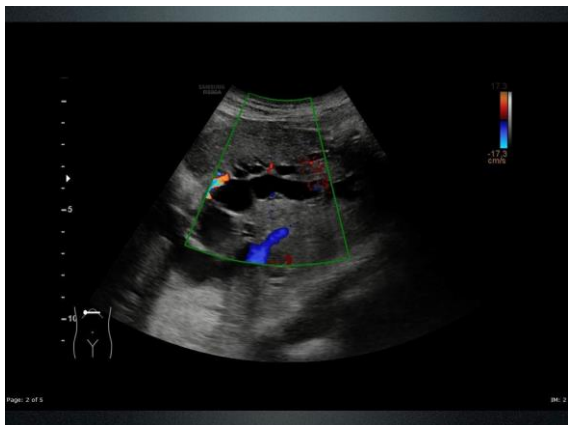
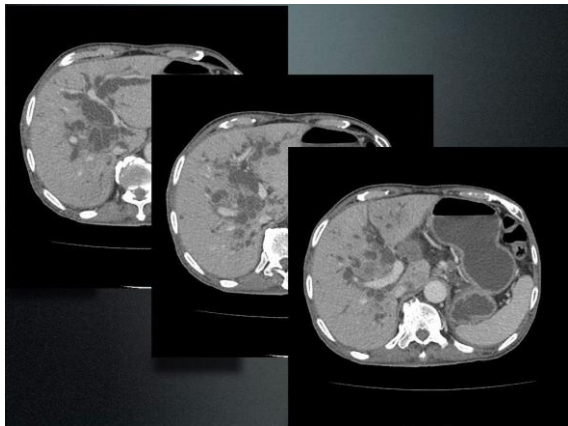
- Benign disease e.g. post-op/ fibrotic stricture, stone
- Malignancy
- Cholangitis or infected bile
- Bile duct injury or bile leak
- Complex obstruction involving left and right duct eg. pancreatic cancer

Contraindication

- No absolute contraindication

Complications

- Major complications is 0.5% to 2.5%
- For example ductal perforation with secondary bile leak
- Bleeding
- Infection (late complication)



Other IR procedure in Palliative Care

Superior Vena Cava Syndrome

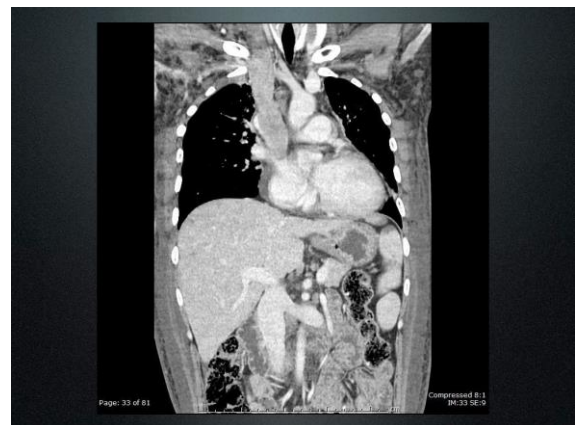
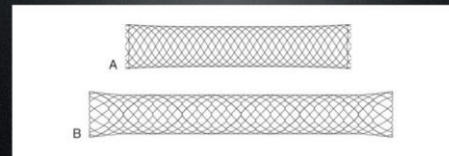
- Caused by obstruction of flow of venous blood from upper body into right atrium
- 95% underlying malignant disease usually advance stage lung cancer
- Goal of management = Relieve symptom and attempt to cure of the primary malignancy

SVC Syndrome

- Small percentage is rapid onset obstruction, causing risk for life-threatening complications
- Radiotherapy is a standard treatment for most SVC Syndrome
- Initial technical successful rate using RT and /or chemotherapy is about 90%

SVC Syndrome

- Placement of endovascular stent to manage SVC syndrome is additional palliative treatment in this condition.



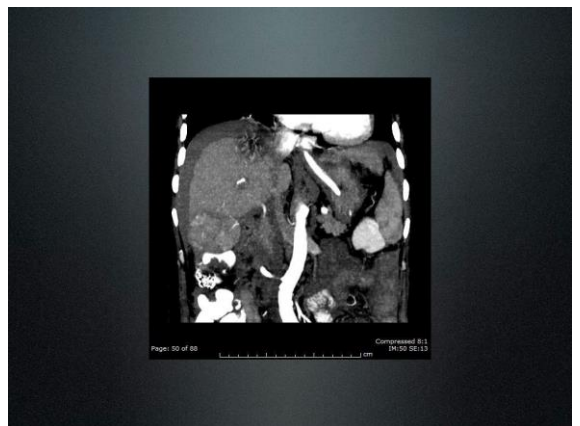
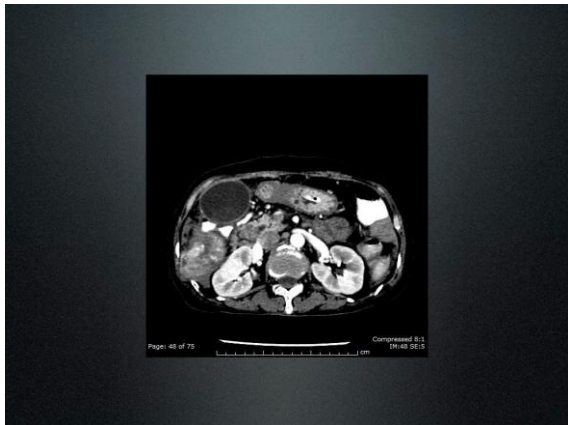
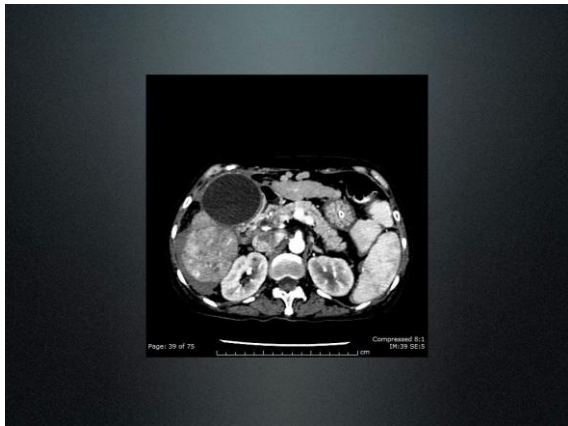


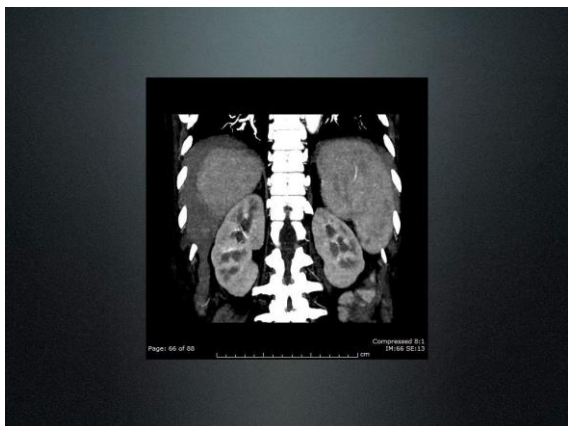
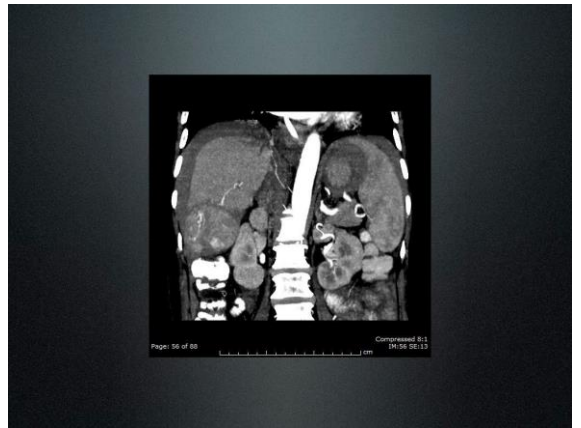
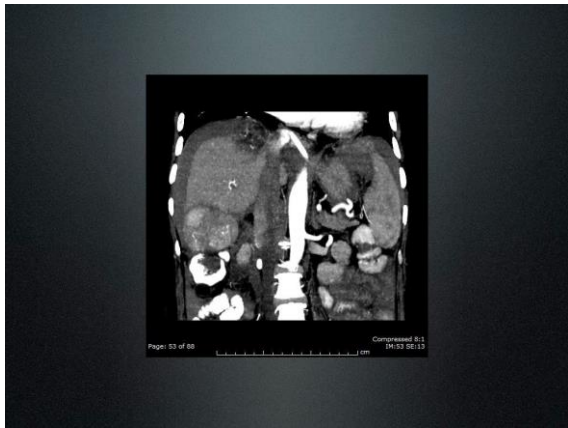
Embolization

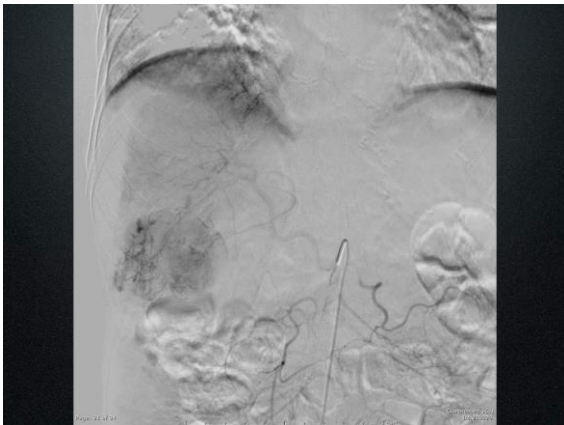
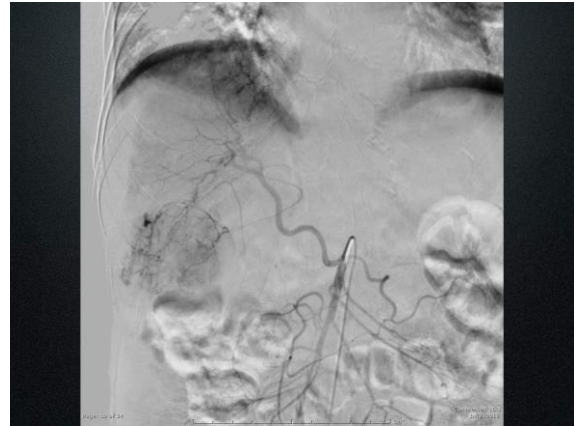
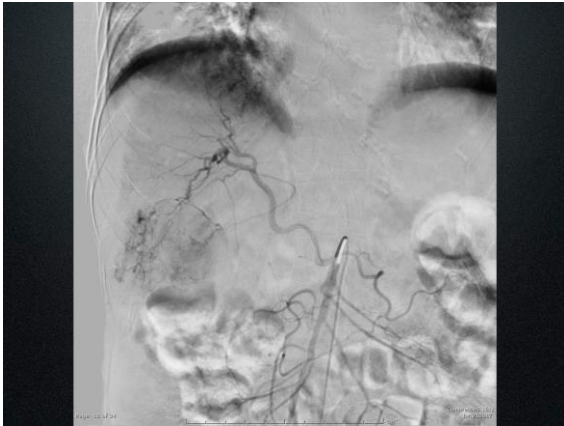
Tumor Embolization

- Tumor embolization is a tool for cancer therapy that helps treat tumors by blocking the blood vessels.
- Embolization for tumoral bleeding or rupture
- Decreased pain
- Pre-operative for surgery









Conclusion

- Role of palliative procedure is evolving as part of interventional oncology service
- Minimally invasive imaging-guided procedures are safe and effective in palliative care in various clinical scenarios.

