Indwelling, tunneled catheter insertion for drainage of malignant ascites and pleural effusions in palliative care

Charlotta Berling, MD, Palliative care unit, Helsingborg, Sweden

Tutor: Bengt Sallerfors, associate professor, university of Lund, Sweden.

Background

- Ascites and pleural effusions are common conditions within palliative care.
- Both cause impairment of quality of life and a significant symptom burden.
- Symptoms:
  - Asictes: pain, feeling of pressure, loss of appetite, nausea, breathlessness.
  - Pleural fluid: breathlessness, pain, feeling of pressure.

Literature study

- Articles about the use of permanent, tunneled catheters in palliative care have been chosen.
- Search in PUBMED and Cochrane.
- The most relevant articles have been chosen, altogether 17.
- Only one from Scandinavia was found.
  - Korpi S, Salminen VV, Piili RP et al. Therapeutic procedures for malignant ascites in a palliative care outpatient clinic. Journal of palliative medicine 2018, Feb 28.

Literature study

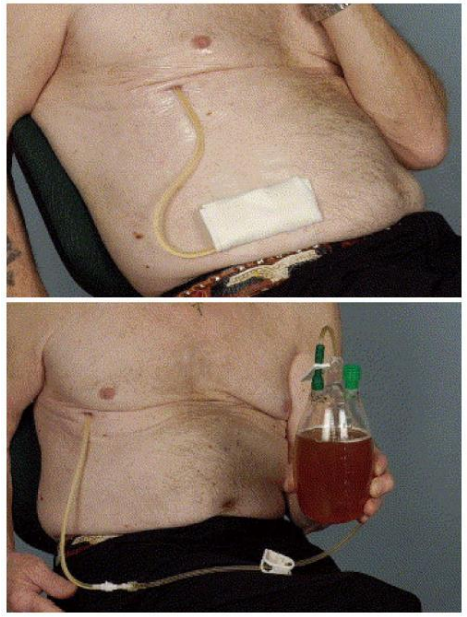
- The use of permanent catheters within palliative care is increasing.
- Complication rate 6-30%
  - Complications:
    - infections,
    - occlusion of the catheter,
    - leakage,
    - catheter tract metastases
- Most complications could be treated without removing the catheter.
- A longer dwell time increases the risk of catheter-associated complications.

Literature study

- Management of malignant ascites:
  - No clear treatment recommendations.
  - When life expectancy is short: repeated paracentesis.
  - When life expectancy is longer (> 1 month?): permanent catheter.

Literature study

- Recommendations for management of malignant pleural fluid:
  - When life expectancy is short (<1 month): repeated thoracentesis.
  - When life expectancy is long (several months): pleurodesis.
  - ”Medium” life expectancy or trapped lung: permanent catheter.
- Advantages with a permanent catheter:
  - Usually less painful
  - Fewer hospital days.
  - Also efficient when ”tapped lung”
  - About 40 % get a spontaneous pleurodesis.



Local study in Helsingborg/Ängelholm

- We started inserting PleurX catheters 2016 in Helsingborg/Ängelholm.
- All patients with malignant disease who received a permanent catheter between 1st. Jan 2016 and 1st. June 2018 were included in the study.
- In total 16 patients, 17 catheters.
  - 12 ascitic catheters
  - 5 pleural catheters
- The catheters were inserted either in the patient´s home, at a nursing home or at the palliative care ward.
- The catheters were inserted by the same physician, with previous experience of insertion.
- No ultra sound guidance was used.

Local study in Helsingborg/Ängelholm

Patients, n	16
Age, years, mean (range)	72 (55-86)
Male, n (%)	5 (31)
Female, n (%)	11 (69)
Malignancy, n	17*
Pancreatic	4
Gynecological	3
Breast	2
Liver	2
Lung	2
Eosophagus	2
Mesothelioma	1
Unknown	1

*One patient was diagnosed with both hepathocellular- and oesophageal malignancy.

Local study in Helsingborg/Ängelholm

Catheters, n	17
Pleural, n (%)	5 (29)
Peritoneal, n (%)	12 (71)
Place of procedure**	
Patient´s home, n (%)	13 (76)
Palliative care ward, n (%)	2 (12)
Nursing home, n (%)	2 (12)
Number of drainages, n, mean (range)	8,5 (2-32)
Ascites, n, mean (range)	10 (3-32)
Pleura, n, mean (range)	6 (2-8)
Removed fluid for each drainage, volume, mL, mean (range)	1500 (500-3200)
Fluid/drainage, ascites, mL, mean (range)	1800(700-3200)
Fluid/drainage, pleural fluid, mL, mean (range)	900 (500-1200)
Length of catheter treatment, days, mean (range)	37 (7-112)
Ascites catheter, days, mean (range)	40 (7-112)
Pleural catheter, days, mean (range)	32 (8-78)

Local study in Helsingborg/Ängelholm

- 10 out of 16 patients died within one month.
- Of the patients with pancreatic cancer the average survival was 21 days.
- 15 out of 16 patients died with the catheter still in place.

Local study in Helsingborg/Ängelholm

Complication r/t catheter placement, n	0
Abdominal	0
Pleural	0
Late complications, n (%)	3 (18)
Peritoneal infection*	1 (6)
Prolonged leakage (>2 weeks)**	1 (6)
Local skin infection**	1 (6)

*One patient had his PleurX catheter removed due to an abdominal infection. This patient also had an abdominal pig-tail drainage, more likely to cause the infection. It was treated with i.v. antibiotics.

Conclusions

- The use of indwelling, tunneled catheters seems to be a safe way of treating ascites and pleural effusions in severely ill patients.
- The local study also indicates that indwelling, tunneled catheters can be safely inserted in the patient´s home, even without ultra sound guidance.
- The procedure of catheter insertion is quite simple.

Conclusions

- The selection of patients suitable for PleurX catheters is important.
- Patients with short expected surival are probably better treated with repeated paracentesis.
- Patientes with a PleurX catheter should be equipped with drainage bags if they go away.
- More and larger studies are needed!

Thank you!