Manage patients with malignant pleural effusion (MPE) using indwelling pleural catheter (IPC) for intermittent drainage at outpatient setting

A safe and cost effective approach

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MPE is common and worsen patient’s quality of life

Not all patients can be effectively managed by pleurocentesis followed by pleurodesis
Patients with entrapped lung or failed pleurodesis

Intermittent drainage via
Indwelling pleural catheter (IPC)
Intermittent drainage via IPC in MPE patients
Service set up in Jan 2012

Structured protocol on selecting patient
Guidelines on drainage procedure in out-pt
Credential training program on insertion of IPC
Overview

Insertion of IPC using seldinger technique
A simple bedside procedure

A credential program is set up to train the doctors for insertion of IPC and nurses to assist the procedure
Overview

From Jan 2012 – Dec 2012
4 patients were treated and prospectively monitored

Major outcomes:
• Patients beddays (from procedure to death)
• Catheter related complications
• Patient’s chest symptoms
## Results (1)

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No of patients</strong></td>
<td>N=4</td>
</tr>
<tr>
<td></td>
<td>(CA lung n=3, CA breast n=1)</td>
</tr>
<tr>
<td><strong>Median time of followup</strong></td>
<td>243 days</td>
</tr>
<tr>
<td></td>
<td>(Range 99 – 374 days)</td>
</tr>
<tr>
<td><strong>No of pleural drainage done at out-patient</strong></td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>(Median 21, range 4-26)</td>
</tr>
<tr>
<td><strong>Median time of drainage interval</strong></td>
<td>7 days</td>
</tr>
<tr>
<td></td>
<td>(range 3-42 days)</td>
</tr>
<tr>
<td><strong>Amount of fluid drained per session</strong></td>
<td>1000 ml</td>
</tr>
<tr>
<td></td>
<td>(range 200-1500 ml)</td>
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</tbody>
</table>

- Recurrent effusion is common
- Frequent drainage is needed
- Using IPC allow intermittent drainage at out-patient and avoid admission
### Results (2)

| No of patients          | N=4  
|-------------------------|-----
|                         | (CA lung n=3, CA breast n=1) |
| **Total survival days** | 958 days  
|                         | (Median 243, range 99-374 days) |
| **Total patient beddays** | 68 days  
|                         | (Median 8 days, range 4-48 days) |
| **Total effusion-related beddays** | 27 days  
|                         | (Median 7 days, range 0-14 days) |
| **Total number of pleurocenesis done** | 6  
|                         | (Median 1.5, range 1-2) |

- Only 7% of patient’s survival days were hospitalized
- Admission significantly reduced
- Repeated invasive pleural procedure avoided
- Patient’s QoL may improved

Tuen Mun Hospital
### Results (3)

<table>
<thead>
<tr>
<th></th>
<th>Pre-drainage</th>
<th>Post-drainage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dyspnea</strong></td>
<td>2.3</td>
<td>0.5</td>
</tr>
<tr>
<td>(Range 0-8)</td>
<td>(Range 0-5)</td>
<td></td>
</tr>
<tr>
<td><strong>Chest distension</strong></td>
<td>4.6</td>
<td>0</td>
</tr>
<tr>
<td>(Range 0-9)</td>
<td>(Range 0)</td>
<td></td>
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</tbody>
</table>

Symptoms score rated from 0-10 (worst perceived symptoms)

- **Almost all patients with good symptom relief after drainage**
Results (4)

Using IPC for intermittent drainage is safe

- No IPC related infection was reported
- Only one catheter-related complication documented: oozing of pleural fluid from wound
- All patients with good acceptance of IPC in domestic environment
Conclusion

With structured protocol, guideline and credential program
Using IPC for intermittent drainage in MPE patients

• Reduce hospital stay
• Avoid repeated invasive pleural procedure
• Good symptom relief
• May improve patient’s quality of life (QoL)
• Safe and with good acceptance in domestic environment by patient
Acknowledgement

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