Hospice Based Ultrasound and Paracentesis - The First Year

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Background:
Malignant ascites is a common condition in a range of neoplastic conditions and is frequently associated with significant morbidity. The onset and progression of malignant ascites is often coupled with deterioration in quality of life and can be a marker of poor prognosis.

Paracentesis of malignant ascites can provide symptomatic benefit in the short term with a well-tolerated, minimally invasive procedure. This is often undertaken in Hospital, which can mean prolonged and repeated admission for patients near end of life. There is anecdotal evidence that Hospices are increasingly reluctant to undertake paracentesis due to perceived risk.

Ultrasound scanning is increasingly becoming standard practice in hospital settings pre-paracentesis, as imaging can improve accuracy of patient selection, and improve safety. There has been increasing interest in Focussed Ultrasound scanning in Palliative Care (FASP) in order to provide imaging and paracentesis in a hospice setting.

With the help of a St James Place Grant, The Prince and Princess of Wales Hospice were able to purchase a Sonosite Micromax - a small, portable USS machine. Several medical and nursing staff then undertook formal FASP training allowing them to have the skills to undertake abdominal scans independently, and for the medical team to site drains safely when clinically appropriate.

Results:
Between the 1st October 2012 and 15th September 2013, twenty-nine FASP scans were performed by 2 trained Specialist Palliative Care Consultants on nineteen individual patients with abdominal distension thought secondary to malignant ascites, suffering a range of symptoms and signs. Patients were seen both as outpatients and as inpatients.

<table>
<thead>
<tr>
<th>Number of scans</th>
<th>29</th>
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<tbody>
<tr>
<td>Gender</td>
<td>19 Male, 10 Female</td>
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<tr>
<td>Malignancy by scan</td>
<td>4 Cholangiocarcinoma, 5 Ovarian carcinoma, 5 Hepatocellular cancer, 6 Pancreatic cancer, 1 Bladder cancer, 2 Endometrial cancer, 1 Prostate cancer, 2 Breast cancer, 1 Lung cancer, 2 Colorectal cancer</td>
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<tr>
<td>Admitted from</td>
<td>17 Home, 5 Hospital</td>
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<tr>
<td>Performance Status</td>
<td>7 x PS2, 18 x PS3, 4 x PS4</td>
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<tr>
<td>Findings</td>
<td>11 Gross ascites, 8 Moderate ascites, 10 other (distended bowel loops etc.)</td>
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<tr>
<td>Paracentesis performed</td>
<td>10</td>
</tr>
<tr>
<td>Volumes drained</td>
<td>4000 ml to 14,000 ml</td>
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<tr>
<td>Complications</td>
<td>One patient required 2 drains due to loculations – diagnosed by FASP</td>
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<tr>
<td>Length of stay</td>
<td>6 x 24 hours or less, 1 x two days, 1 x 13 days, 1 x 14 days, 1 x 19 days</td>
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<td>Tolerated</td>
<td>All patients tolerated procedure well</td>
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There were an additional 5 scans performed to assess for bladder pre-catheterisation.

Methods:
All FASP scans performed between 1st October 2012 and 15th September 2013 were recorded on a standardised audit form, including information on diagnosis, USS findings, patient tolerability, drain insertion, paracentesis volumes and complications.

Patient comments
- “Better than the hospital – I’m more confident, and it’s not someone who doesn’t know what they are doing”
- “Great Stuff”
- “No bother – feels brilliant”
- “Delighted Hospice can offer this service – I didn’t want to go to Hospital. Pleased to be able to access ongoing review”

Clinician Comments
- “USS allowed repeat scan and visualised loculations and site for further successful drain”
- “This drain would not have been clinically possible in Hospice without USS”
- “Previous major surgery with peritoneal mets – USS allowed confidence”
- “Useful prognostic and OOH/weekend info - no ascites but increasing disease”
- “Clinically ascites, but scan showed minimal fluid - saved admission and failed drain”
- “Able to scan patient as OP and bring in if needed - great to be flexible”
- “GP called the day before, scanned today and assessed.”

Conclusions:
The aim of this service development was to create a system where patients with malignant ascites could be assessed and managed either in their own home or the hospice, and avoid the need for hospital admissions/investigations. The new service has resulted in a reduction in hospital admissions and need for accessing hospital based USS services, with overwhelmingly positive patient/relative feedback and no significant complications to date.

When appropriate patients had been identified and began to access the service, they preferentially chose to come to PPWH rather than the acute setting. As a result Hospice services became more involved in a small group of patients who may otherwise have been less involved with Specialist Palliative Care Services.

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In practice we have found the service is best suited to outpatient and inpatient services, but the team have acquired the skills needed for home based scans should the need arise.

Overall, as a Hospice the use of FASP has been hugely beneficial and received very positively by patients. We would hope that over the coming months we are able to build on the first year success, and increase the numbers of patients and families who can benefit from it.

Acknowledgements
The Prince and Princess of Wales Hospice would like to acknowledge Help The Hospices and the St James Place Grant for funding the purchase of the Ultrasound Machine for this service.