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Report of a visit at the Colorectal Service of the Sloan Kettering Memorial Cancer Centre New York, USA

by
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Acknowledgements

This report summarises my experience gained during my attachment to the Colorectal Service at Memorial Sloan Kettering Cancer Centre (MSKCC) in New York, during the first 10 days of September 2015. This visit has been generously sponsored by the ACPGBI Travelling Fellowship. I feel grateful to the ACPGBI Education and Training Committee that honoured me with this selection and to the Dukes’ Club that publicised this opportunity. I am indebted to my Programme Director Miss V. Bowbrick, Educational and Clinical Supervisors Mr A. Williams and Mr M. George who supported my application and facilitated my absence from the busy clinical committments of St Thomas’ GI Surgery service. Finally I feel gratitude to Dr M. Weiser, Surgical Oncologist, Vice-Chair for Education and Faculty Development, who kindly authorised my visit and the rest of the Staff at MSKCC, who welcomed me to their team.

Sloan Kettering Memorial Cancer Centre

The Memorial Sloan Kettering Cancer Centre (MSKCC) was founded in 1884 as the New York Cancer Hospital. It now consists of two related institutions, the Memorial Hospital for Cancer and Allied Diseases, providing patient care, and the Sloan Kettering Institute, focused on basic-science research. The Memorial ranks consistently within the top 2 Best Hospitals for Adult Cancer in the USA (US News and World report). The colorectal service has a team of seven surgeons, led by Professor Julio Garcia-Aguilar and a large number of associated specialists and healthcare professionals, treating approximately 1200 patients with colorectal and anal cancer per year. It is based in New York, Upper East Side, with the Memorial Hospital at 1275 York Avenue.

Arrangements
It took only an exchange of a few emails with Dr M. Weiser, who authorised my visit at MSKCC as an international clinical observer. The process of application required a reference letter, passport details, disclaimer of vaccinations and health clearance questionnaire.

On the first day, I attended the Graduate office, met the admin secretary and completed a few online introductory modules on professional conduct, ethics and patient/data confidentiality. I was provided with print-outs of all surgeons’ weekly timetables, the operations scheduled for that week, the scheduled teaching meetings/lectures and a white coat! I met Dr Weiser and was welcomed to the team. On a pleasant coincidence, I also met in his office his Fellow for the following 2 months, a British Post-CCT Surgeon, Mr Campbell Roxburgh, who doing a year’s Advanced Colorectal Fellowship. During the following days, I tried to get integrated to the team as much as possible. I will present below my experience classified according to the different aspects of patient care encountered.

The Meetings (Morbidity and Mortality, MDT and Teaching)

The M&M meetings were not very different comparing to our practice in the UK. No mortality was presented in the meetings I attended and the few complications discussed were mainly medical (MI) and infections (wound infections and C. Diff). Potential preventive factors were explored and there was no blame culture.

The Oncology MDT meetings were structured similarly to the UK ones. The big difference though is that not all cancer cases are discussed in them. It appears that for the straightforward cases, given the large volume of patients treated at MSKCC, the surgeons have the liberty to decide on treatment in the clinic, without approval by MDT. Only 10-15 cases were discussed per meeting, chosen because of their diagnostic challenge or management dilemma. It was interesting that few of these cases sparked a brisk exchange of arguments between surgeons and oncologists, supported by evidence and data quotes.

There is a busy schedule of teaching sessions across different surgical oncology specialities, all starting at 07:00, after a morning ward round has been completed. At the Surgical
Oncology Fellows Conference, which was very well attended, 3 presentations were given by Surgical Fellows. The topics included primary research papers and case presentations. The meeting was moderated by Dr DeMatteo (HPB) who was addressing probing questions to the presenters and the audience in a way that everyone’s attention was tense! The colorectal cases presented included cases of rectal cancer with complete response after neoadjuvant therapy, appendiceal carcinoid and the associated dilemmas in management.

Picture 1. A very well attended and moderated 7am teaching session

The outpatient clinics

The outpatient clinics are run in a rather different way than in the UK. Although a total of 30 patients were seen in an all day clinic (08:00 - 18:00), the pace felt comfortable. They are very well staffed: There is the Attending (Consultant) Surgeon who sees all patients, the Surgical Fellow, a Physician assistant, 2 Nurses, A Research Assistant and one or two secretaries. The patients have an initial interview by the more junior staff (Fellow, PA, Nurse) and are then reviewed by the Attending, who can also perform on site flexible
sigmoidoscopy if necessary. Any communications deemed necessary with other specialists is done in real time by email/phone. In total, patients wait longer whilst in the clinic, but they leave the clinic with a formulated plan with dates for their operation or additional tests. The presence of the research assistant increases the yield of candidates for inclusion in trials. All consenting for procedures is done by the Attending only. The case mix involved colorectal cancers of wide variety and stage. All patients had a diagnosis made by the primary care physicians or had already been treated elsewhere. More often than not, patients self-referred themselves for a second opinion or for salvage treatment after initial treatment elsewhere in the US. It was useful that there was time for the Fellow to follow the Attending in the consultations, which then became educational opportunities. Lunch is taking place in the form of take-away food brought to the clinic and consumed between cases.

Below is a list of clinical trials which patients were invited to consider, depending on the indication:

- A Phase I Study of High-Dose-Rate Brachytherapy plus Chemotherapy in Patients with Recurrent Rectal or Anal Cancer
- A Phase II Study of Chemotherapy and Chemoradiation Followed by Surgery or Non-Operative Management in Patients with Stage II or III Rectal Cancer

Picture 2. Dr Weiser and team in the hub office in the clinic.
- A Study of a Neuromodulation Device for Patients with Bowel Dysfunction after Rectal Cancer Surgery
- ICARuS (Intraperitoneal Chemotherapy After cytoReductive Surgery): A Phase II Study of Early Post-Operative Abdominal Chemotherapy versus Heated Abdominal Chemotherapy for Cancers of the Appendix, Colon, or Rectum that Have Spread to the Abdominal Lining
- Chemotherapy Alone or with Radiation Therapy for Treating Patients with Locally Advanced Rectal Cancer Undergoing Surgery

**Ward care**

The ward rounds were done twice a day by the Fellow and the jobs were carried out by the Resident. The number of patients per Attending was reasonable (10-15), so a business round could be brief. The Attending would see the patients most days. The hospital environment is nice, and their Infection Disease Policy allows flowers in the rooms! Doctors go round in white coats that have long sleeves and wear ties. They apply hand hygiene policy and I think that their Surgical Site Infection rate is low. All documentation is electronic, with PACS, e-noting, etc, similar to what is happening or coming to many hospitals in the UK.

**Operating theatres**

1. **Robotic Surgery**

MSKCC have embraced robotic surgery very enthusiastically and have streamlined its use over the last 5 years across all surgical specialities. It is used as first-line surgical option in all patients who would normally have a laparoscopic procedure. Dr Weiser has performed 300 robotic-assisted colorectal operations during this period. The cases, of course, that are not deemed suitable for minimally invasive surgery are still done open, as per normal.
There are seven last generation DaVinci (Xi) systems for use across all specialities. The operating theatre hardware is fully integrated, looking really busy (Picture 4). All documentation, including the WHO time-out checklist is done electronically. Theatre staff show remarkable discipline and professionalism. The robot requires an additional time-out checklist. The routine use of robot for all cases at MSKCC has streamlined the process and has enabled the team to become sleek and time-efficient. Docking and undocking take minimal time; between 8:30 and 16:30 a robotic right hemicolectomy and a robotic high anterior resection (in a patient with BMI 50, requiring splenic flexure mobilisation) were comfortably completed.

There is not enough evidence yet on outcomes of robotic colorectal surgery (RCS). A meta-analysis of four RCTs showed that RCS has the advantages of reduced Estimated Blood Loss, lower conversion rates and shorter times to the recovery of bowel function[1], whereas a systematic review [2] showed high conversion rates. The results of the RoLARR study (with UK collaboration) on rectal surgery are awaited. The feedback from the MSKCC surgeons who practice robotic surgery routinely for the last 4 years is that it offers advantages (better view, better intra-corporeal assistance by means of more available robotic arms), that facilitate resection in challenging cases, such as rectal cancer in obese male patients.
Picture 4. Robotic theatre and Robotic Anterior Resection
2. Prevention of surgical site infections (SSIs)

The clinical team at MSKCC have decreased their incidence of SSI by undertaking a bundle of perioperative measures, including:

- Pre-operative bowel prep on every patient, along with combination of antibiotics (neomycin and metronidazole). This seems to be supported by a recent paper in the Annals of Surgery this month (September 2015) that boldly claims that mechanical bowel preparation with oral antibiotics reduces by nearly half, SSI, anastomotic leak, and ileus, the most common and troublesome complications after colorectal surgery [3]. The effect of this policy on incidence of C. Diff infections is unclear.

- Use of a new “closure tray” with sterile instruments for closure of wound after resections.

- Minimising exposure of the wound to bowel contents as much as possible: The purse-string suture to the proximal colonic end before insertion of the anvil is done before the clamp across the bowel is released.

- Finally, the closure of the wound is particular and favours drainage of exudates: no subcuticular continuous sutures are used. Dr Weiser favours closure with mattress nylon and undertakes preventive negative pressure dressing for all extraction wounds. After the nylon sutures, the skin is covered with a non-adhesive fenestrated gauze and on top of this by the sponge and film of conventional vacuum dressing. The closed system is treated with 125 mmHg negative pressure for five days and the wound remains untouched in the meantime.

3. Prevention of retained gauzes

It was interesting to see the use of a gauze-detection system that uses a low energy radio frequency signal detecting misplaced surgical sponges that are customised with markers (Picture 5). The conventional count is still taking place, but a circular probe is waived above the patient as well before abdominal closure. If a retained gauze is detected an alarm goes off that triggers further search. The method has been validated in prospective trials [4].
Conclusion

My visit at the Colorectal Service of the Memorial Sloan Kettering Cancer Centre has been a great opportunity for me to broaden my horizons in the field of my interest, and for this reason I, once again, feel grateful to the ACPGBI. I had the opportunity to detect similarities to our practice in the UK, but also identify differences. It is worth noting that the standards of care at MSKCC do not reflect the national average in the USA. Use of expensive technology derives from financial background that is far different from what is available in the average US institution and certainly the NHS. In this context, not all differences in surgical practice are exportable. It is however within our duties of Good Clinical Care to identify potential beneficial practices from elsewhere in the world and seek to adjust them to our reality in the NHS for the patients’ ultimate benefit. I feel that this visit has certainly contributed to this direction.

References
