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Dr Ajay Puri shares his experience in field of Ortho-Oncology

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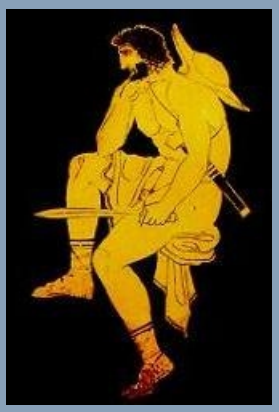

The "ODYSSEY": "Orthopaedic Oncology" My journey thus far!

"The Odyssey is one of two major ancient Greek epic poems attributed to Homer. It centres on Odysseus and describes his journey home after the fall of Troy. It takes Odysseus ten years and multiple trials and tribulations as he seeks to return after the ten-year Trojan War."

Circa 1999. Well ensconced as Associate Professor in one of Mumbai's premier teaching University Hospitals living life in my "comfort zone" I was unaware of the cosmic forces building up that were soon to bring about a major upheaval in my professional career. An advertisement brought to my notice by a colleague for an "orthopaedic oncologist" in India's premier oncology centre triggered a chain of events that I could have little foreseen. To most of us "routine" orthopaedic surgeons, orthopaedic oncology in the last millennium was a dark and forbidding battleground littered with countless mines all waiting to explode in the faces of those who were foolish enough to walk down that path. Besides the occasional giant cell tumor seen infrequently, the little I knew of this "unexplored specialty" was from the lectures heard at meetings where the wise man from the North propounded the theory of "God's foresight that gave us two fibulae for reconstruction", equally forcefully countered by the "mega" surgeon from the South who emphatically put forward the benefits of huge metallic monsters for reconstruction that functioned in lieu of our God given bones. [1, 2] To me as a youngster all this was as fascinating and farfetched as "Star Wars" because I never expected to walk down this road where "few men had gone before".

Having had this "fateful" advertisement brought to my notice and more for lack of an alternate opportunity at adventure rather than a belief in choosing this as "the" career option I ventured to appear for this interview. Sports psychologists will go blue in the face trying to drill into their wards theories about "just enjoy the game" and "don't let the pressure get to you and you will perform better". With no pressure to perform, secure in the knowledge that I had a faculty position already and buoyed by the cockiness that was inherent in most young orthopaedic surgeons of my generation, the "enjoyable" interview went like a breeze. Lo and behold, "unexpectedly" I had an appointment letter in my hand to venture into this minefield.

Then is when the "pressure" set in. Should I leave my "comfort" zone to try and navigate this minefield? "Fools rush in – where angels fear to tread". Angel I definitely was not, but a fool.....?

.....And I became the first orthopaedic oncologist to be appointed as full time faculty by Tata Memorial Hospital. I was joined a few months later by a colleague, a lecturer from the adjoining KEM hospital - Dr. MG Agarwal and together we set about navigating these stormy seas. Apart from the complexity of these "first time" surgeries one of the main obstacles that we encountered was the lack of a credible prosthesis for reconstructing large defects after resection. Though individual surgeons earlier had their prosthesis manufactured by local fabricators no national implant company had envisaged interest in these previously, either because of lack of numbers or the absence of an opportunity to develop a prosthesis with surgeon inputs. Armed with little more than the enthusiasm of the "new convert" we set up a collaboration with Sushrut, an implant manufacturer with whom I had the opportunity earlier to help develop their spine and trauma implants while working at "Sion" hospital. The absence of stringent regulatory requirements facilitated rapid development which would otherwise have been a lot slower in today's era. The TMH –NICE (Tata Memorial Hospital – New Indigenous Customised

Endoprosthesis) a custom prosthesis, individually manufactured for each patient was the result of this collaboration.[3] Over a decade, based on our clinical experience and increasing understanding of biomechanics the TMH –NICE metamorphosed into the "ResTOR". This "off the shelf" modular prosthesis can now reconstruct whole bones and offers a cost effective alternative in many Asian and African countries.[4, 5] Along the way we also practised and refined numerous biological reconstructions.[6, 7] These offered alternative options that were more durable, universally applicable and easier to implement in financially constrained situations. The adrenaline pumping pelvis surgeries; fearful bloodbaths initially, gradually transformed into more controlled battles. We learned to reconstruct these large pelvic resections with options more suited for squatting and sitting cross legged, "activities of daily living" inherent to our patients.[8] Yes, there were complications and disasters. While we hopefully learned from these we did not allow them to overshadow our enthusiasm and possibly were the first believers of the "acche din aayenge" philosophy which encouraged us to keep moving ahead. While benefiting from the published experience of "western" literature we learned to innovate and develop methods and techniques more suited to our own our local socio-economic milieu.

We were fortunate that the environment of the institution we worked in was steeped in the culture of "multi-disciplinary" management, the essence of successful treatment of any cancer. We were easily able to implement "joint clinics" where patients benefited from a "one stop window" where all specialties pooled in their expertise to decide the optimum treatment of a particular case. The concept of our weekly ORP "ortho – radio – path" diagnostic meeting to discuss difficult diagnostic lesions has been the genesis of the hugely popular musculo skeletal oncology ORP gatherings that have been organised all across the country over the last decade or so.

Besides service, "education" has been a core component of the philosophy of the institute that gave me this opportunity to practise the art and science of musculoskeletal oncology. We began by training post M.S. "fellows". As there was no formal program or rigid curriculum they spent varying amounts of time with us based on their endurance and ability to last the course and tolerate my idiosyncrasies. It is a matter of great pride now to see most of them as well established proponents of "orthopaedic oncology" in various parts of the country. Publishing our results in international peer reviewed journals and presentations at various international meetings helped establish the unit as a credible centre for bone and soft tissue tumors. This drew various international visitors all keen to experience the "large volumes" unlikely to be seen in most other global centres, further enhancing the exposure of the Indian musculoskeletal oncology fraternity on a global platform.[9] The earlier informal training has now formalised into a 2 year recognised "orthopaedic oncology fellowship" program, the only one of its kind in the country.

In ancient Roman religion and myth, Janus is the god of beginnings and transitions. He is usually depicted as having two faces, since he looks to the past and to the future. While certainly no Janus I think this is an appropriate moment to dwell on the future challenges we as a specialty must now try and overcome?[10] We must embrace the responsibility of increasing awareness about these uncommon lesions both in the public and professional domain. We must enhance our ability to disseminate and propagate current information and techniques, continue to train surgeons in larger numbers and help set up collaborative networks to gain further insight into these rare lesions. There is increasing pressure for medical technology assessment to include cost-effectiveness analyses to help determine difficult resource allocation decisions.[11] While the importance of clinical expertise and experience is unquestionable we do need to combine this with the judicious integration of best available scientific evidence to facilitate rational "informed" clinical decision making and help develop evidence based protocols that would be both effective and applicable in our settings.

The Indian Musculo Skeletal Oncology Society (IMSOS) is a step in this direction.[12] It aims to "promote scientific, evidence based, comprehensive multidisciplinary management of bone and soft tissue sarcomas and encourage basic and clinical research." IMSOS seeks to provide a common forum for interaction and mutual collaboration between different specialists and institutes involved in the treatment of sarcomas. It will help foster training and education opportunities, promote dissemination of knowledge and aid in the development of treatment guidelines suitable for our socio cultural environment. Together we must strive to develop this society to ultimately provide the best possible care to the maximum number of patients. The launch of the "Journal of Bone and Soft Tissue Tumors" cannot have come at a more opportune time. It will provide a fillip to surgeons seeking to share their experience who may have otherwise been intimidated by the "established" journals which currently look askance at individual case reports and series with relatively small numbers.

The "Odyssey" continues....., Indian orthopaedic oncology while having successfully navigated its nascent and adolescent period is successfully maturing into a vibrant specialty seeking to stamp its own unique impression globally. It is heartening to see an ever

increasing number of practitioners venturing into these seas, now armed with navigational aids and charts that could help make the journey less turbulent, yet as exciting and exhilarating as it has always been.

References

1. Natarajan MV, Sivaseelam A, Ayyappan S, Bose JC, Sampath Kumar M. Distal femoral tumours treated by resection and custom mega-prosthetic replacement. Int Orthop 2005;29: 309-13.
2. Yadav SS. Dual-fibular grafting for massive bone gaps in the lower extremity. J Bone Joint Surg Am 1990;72: 486-94.
3. Agarwal M, Anchan C, Shah M, Puri A, Pai S. Limb salvage surgery for osteosarcoma: effective low-cost treatment. Clin Orthop Relat Res. 2007 Jun;459:82-91.
4. Puri A, Gulia A. The results of total humeral replacement following excision for primary bone tumour. J Bone Joint Surg Br 2012;94: 1277-81.
5. Puri A, Gulia A, Chan WH. Functional and oncologic outcomes after excision of the total femur in primary bone tumors: Results with a low cost total femur prosthesis. Indian J Orthop 2012;46: 470-4.
6. Puri A, Subin BS, Agarwal MG. Fibular centralisation for the reconstruction of defects of the tibial diaphysis and distal metaphysis after excision of bone tumours. J Bone Joint Surg Br 2009;91: 234-9.
7. Puri A, Gulia A, Jambhekar N, Laskar S. The outcome of the treatment of diaphyseal primary bone sarcoma by resection, irradiation and re-implantation of the host bone: extracorporeal irradiation as an option for reconstruction in diaphyseal bone sarcomas. J Bone Joint Surg Br 2012;94: 982-8.
8. Puri A, Pruthi M, Gulia A. Outcomes after limb sparing resection in primary malignant pelvic tumors. Eur J Surg Oncol 2014;40: 27-33.
9. http://www.indianorthopaedicsociety.org.uk/wp-content/uploads/2012/11/Report-3-Rej-bhumbra.pdf.
10. Puri A. Orthopedic oncology - "the challenges ahead". Front Surg 2014;1: 27.
11. Brauer CA, Neumann PJ, Rosen AB. Trends in cost effectiveness analyses in orthopaedic surgery. Clin Orthop Relat Res 2007;457: 42-8.
12. http://www.imsos.org

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