Brief report on pediatric oncology in Bangladesh

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Abstract

Cancer in children is emerging as a significant threat to life as deaths from infections and malnutrition have begun to decrease due to concerted maternal and child health initiatives. Efforts are being made to create a comprehensive service for children with Cancer. The major challenges to be overcome are professional and public awareness, late diagnosis, perceptions of incurablity, treatment refusal and abandonment, toxic deaths and drug costs/inconsistent availability.

Key words: Children, Cancer, Bangladesh

Country Demographics

In 2012, the population was estimated to be 164 million with 47% under 15 years. There is no national population based cancer registry but using worldwide incidence rates of between 80 and 150/million children we would expect 6-9000 new cases/year[1] in Bangladesh. Only about 25% of those numbers are actually currently diagnosed. Under-5 mortality is now 56/1000 live births due to considerable government focus on maternal and child health, and disease prevention. Poverty is a major issue but the national economy is showing positive growth. Children present late with cancer as a result of poor public and local health worker awareness of the meaning of signs and symptoms of cancer. Consequently, only about 80% of children reaching secondary/tertiary hospitals can be offered potentially curative therapy, and of those many families cannot afford to pay for full treatment.

Bangabandhu Sheikh Mujib Medical University

The largest specialist pediatric oncology center (created in the early 1990s) is at the multidisciplinary Bangabandhu Sheikh Mujib Medical University (BSMMU) in Dhaka funded directly by the Government. The Ministry of Health and Family Welfare send pediatricians there for specialist training, including 10 who have completed Doctorate level degrees since 2002. The Social welfare department provides support and help to patients/families. Nevertheless at present the cost of cytotoxic therapy falls to parents. This center has other essential pediatric specialties including nephrology, cardiology, nutrition and gastro-enterology, surgery, and general pediatrics. There are good basic diagnostic hematology and pathology services. Some limited immune histo-chemistry, using a limited number of antibodies has been initiated in the last 6 months. There is a flow cytometer in the unit, but it is not currently functioning. Radiology includes ultrasonography, computed tomography scanning and magnetic resonance Imaging.

The number of children with cancer presenting at BSMMU has been rising year on year (280 in 2010, 400 in 2011, 455 in 2012).

The relative incidence of malignancies seen at BSMMU in 2012 was: Acute lymphoblastic leukemia 58%, non-hodgkin lymphoma 11%, acute myeloblastic leukemia 10%, neuroblastoma 5%, Wilm's tumor 2%, hepatoblastoma 3.5%, hodgkin lymphoma 3%, retinoblastoma 2%, germ cell tumors 2%, histocytosis 2%, central nervous system tumors 1%, osteosarcoma 1%. As part of a twinning project in June 2012, an online database (POND) @www.POND4kids.org was established and can provide comprehensive, reliable incidence and outcome data for the unit. Most brain tumor patients referred to BSMMU are managed by neurosurgeons and radiotherapists (latter at Dhaka Medical College (DMC)) or the National Cancer Research institute (NCRI)).

In Bangladesh, there are now 6 trained pediatric hematologists/oncologists working as professor, associate professor, assistant professor and consultant level at BSMMU and 7 Government funded pediatric haemato-oncologists at other MC and at the NCRI. Of the Government funded colleges, 3 are in Dhaka (Dhaka MC, Siri Sollimulllah MC and Mymensingh) and 1 each in Sylhet, Chittagong, Rajshahi, Barrishal and Rangpure. A number of private facilities also provide some services. BSMMU and the DMC see more leukemia cases and the NCRI more solid tumors. NCRI is the national referral center for retinoblastoma. All those requiring radiotherapy go to Dhaka Medical College or the NCRI.

Training/Network

In addition to the MD training program at BSMMU (currently 17 residents are enrolled at different phases of the MD course), the Unit is spearheading an extensive training program and network development of pediatric

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Access this article online

Quick Response Code:

Website: www.sajc.org

DOI: 10.4103/2278-330X.110516

oncology services, in part funded by a 5 year World Child Cancer (www.worldchildcancer.org) twinning program linking BSMMU with University College London Hospitals and Vancouver Children's Hospital.

This project is supporting the creation of regular training workshops, subsidies for drug costs and data management, installation of online tumor registries and family support. Dhaka MC and NCRI are also using the POND database, since 2012.

ASHIC Foundation created a shelter/home from home in Dhaka for patients/families from distant parts and Chittagong has a parent support group (CLASS). More family support will be developed as the network expands.

Challenges

- Following awareness campaigns through the media and workshops, the number of children referred are increasing, creating capacity problems within referral units
- Late diagnosis and advanced disease at presentation persists (about 20% of cases are incurable at presentation)
- The early toxic death rate is about 10% with very ill children presenting
- 43% of families refused treatment and/or stopped treatment prematurely in 2012 (cost, family disruption, doubts about curability and after initial good response)
- Most cytotoxics are imported – The cost of all drugs, but especially L-asparaginase and an inconsistent supply of 6-Mercaptopurine are the major drug problems encountered.

Conclusion

Those who complete treatment have a 50-60% cure rate. Concerted efforts are being made to raise public and professional awareness, reduce diagnostic delays and subsidise drug and travel costs.

Reference

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How to cite this article: Islam A, Eden T. Brief report on pediatric oncology in Bangladesh. South Asian J Cancer 2013;2:105-6.
Source of Support: Nil. **Conflict of Interest:** None declared.