

Partnering with District Hospitals in India for Fight Against Cancer

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Received: 20 October 2018 / Accepted: 8 November 2018
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Abstract Cancer is a difficult disease to treat particularly in low socioeconomic strata. There are three major challenges: that of early detection, of affordability and easy accessibility to specialised health care. The complexity of health care delivery, lack of structured grassroots level training program for early cancer detection, the shortage of well-equipped hospitals compounds the challenge of detecting as well as treating cancer in village based India. We have tried to reach out to rural population, through district level anti-cancer programs. These included holding (1) free detection camps to find cancers early, (2) training of doctors at district level in early detection (3) wherever feasible, offer radical surgery at the district hospitals itself and (4) train doctors, nurses on relevant palliative care issues including home care of dying cancer patients. We believe that our experience of carrying out more than 200 free cancer detection camps and performing radical surgeries in an outreach program in several districts of central India and surrounding States have the practical potential of a national model for low cost cancer treatment.

Keywords Cancer cost reduction · District hospitals India

Introduction

Incidence of cancer varies from one geographic region to another. According to IARC, a specialised cancer agency of the World Health Organisation, cancer is a growing global health threat. One in five men and one in six women worldwide are likely develop cancer during their lifetime, and one in eight men and one in 11 women die from it [1].

Clearly growing number of cancer cases in India is a matter of concern. Even though India is a young country demographically, establishment of population based cancer registries has facilitated availability of data. For example we now know that in India, the number of new cancer cases in 2018 among male and female and in all ages stood at 1,157,294 [2]. We also know that amongst various cancer types and subtypes head and neck cancers are a significant problem in our country constituting approximately one-third of all cancer cases in contrast to 4–5% in the developed world [3]. High incidence of cancers in India; of upper aero digestive tracts namely that of oral cavity, oropharynx and laryngopharynx and its preponderance in poor strata [4] was the reason of embarking on a series of cancer detection, training and cancer surgery programs in several districts over last 28 years. These camps or training programs were held in most districts of Madhya Pradesh, and in parts of Rajasthan, Chhattisgarh, Gujarat and Maharashtra.

Clinical Data

Oral Cancer Prevention Mouth Self-Examination

Head and neck cancers have preventive potential in view of a biological history and presence of precancerous lesions.

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We carried out house to house survey to get information on tobacco 'abuse' patterns. As a part of this project 69,000 individuals were interviewed and examined within a period of 1 year. In this project, we trained primary health workers in 'mouth self-examination. This program warranted regular field visits. When data was analysed, amongst tobacco users, the ratio of men to women was 3.3–1.

92% of the women were tobacco chewers while 75% of the men were smokers. 61% of the smokers smoked bidis. This was an IND CAN 006 WHO supported project and was presented in UICC Congress at New Delhi [5].

Cancer Detection Camps

212 cancer detection camps were organised, more than 1,50,000 people examined. This was preceded by wide dissemination of warning signs through, hoardings, distribution of pamphlets, and slides in cinema halls.

In the camps, an elaborate system was adopted. The actual processes involved history taking, clinical check-up, relevant, and if required, radiological, biochemistry, and sonography tests. Those with suspected neck masses underwent fine needle aspiration cytology fixing the tissue in cytofix immediately, for reporting by qualified surgical pathologist who was at stand by. When surgical work was combined, experience of surgical pathologist who travelled with the team, interpreted results on scrape cytology and frozen section on cryostat. Prior histological report of biopsy if done earlier, was often helpful in treatment planning.

Surgery at District Hospitals

Surgical work ranging from minor and major operations. Three step processes were used:

- (a) *Appraisal* An appraisal was done to see if the operation theatre, its equipment's as well as sterilisation met standards which were both safe and satisfactory. Evaluation was done using several parameters including good infrastructure, as well as trained support staff.
- (b) *Selecting Cases* Getting patients checked at primary health care centres earlier or block level, following a two system in rapid progression enabled us serve patients from several villages. Selection of possible cases for surgery was done by a specialised team of experienced surgeons.
Commitment to high quality patient care was the bottom line.
- (c) *Surgical Team* The team consisted of the entire anaesthesia team including their technicians.

Surgical team included assistants, support staff, OT technicians.

On several occasions we found qualified, capable staff at the host institutes themselves. The staff at the district hospital was found to be of a high calibre. Our own senior staff as a backup was available in case of any eventuality.

- (d) *Preoperative sessions*
The patients were given the option that they can by choice go to different centres for treatment of cancer, choose the treatment centre of their own choice. Patients who had to undergo surgery were explained the pros and cons, consequences and sequelae and counselled—to prepare them for surgery. If willing for surgery, a formal consent was taken both of the patients and their nearest dependents. Patients who were found unsuitable for surgery were screened for non-surgical alternative scientific treatment.
- (e) *Surgical List* The surgical work performed ranged from routine endoscopic surgeries, biopsies with frozen section facilities. Direct Laryngoscopy, Oesophagoscopy, and Bronchoscopy, biopsies of buccal mucosa, wide excision of cheek cancers, radical neck dissection, and commando operations with reconstruction.
- (f) *Post-operative Care* Post-operative rounds were taken and wherever required intervention that was found to be appropriate was done. A team of selected doctors from every district was earmarked for post-operative care. They were eventually given the responsibility of looking after the patients in view of their surgical training and experience. Support from the medical staff, nursing staff and paramedical staff coupled with the social organisations was of extra ordinary nature.
- (g) *Planning of Adjuvant Treatment.* The histopathology report that was requisitioned needed to be evaluated for planning of post-operative adjuvant treatment and this was done meticulously and carefully keeping in mind the histological report. A new positive development in Madhya Pradesh is that chemotherapy is now being given at those hospitals themselves.

Training We carried out structured program as a CME on all issues pertaining to practical aspects of cancer vis-à-vis detection, diagnosis, and discussed treatment modalities together. Training was given in breast self-examination, and how to perform fine needle aspiration cytology on one hand, and on home care of terminal cancer patients on the other, the approach in the palliative care setting being that of high touch low tech approach. Very often cancers are detected late, and in that unfortunate setting, we know that

in India only 1% of population has access to palliative care [1]. As a backup we have a dedicated palliative care centre at our Institute, which was available even though we have practical difficulties in staffing it [6].

Discussion

Detection of cancer in community based settings is not uncommon. We combined detection, and where feasible surgery which extended to supermajor resection surgery over nearly three decades. Even in large cities, such as Indore, patients referred after massive screening were operated in low budget centres [5].

Out-of-pocket payments, which account for more than three-quarters of cancer expenditures in India, are one of the greatest threats to patients and families, and a cancer diagnosis is increasingly responsible for catastrophic expenditures that negatively affect not only the patient but also the welfare and education of several generations of their family [7], as such importance of harnessing the huge resource of district hospitals for anti-cancer activities can not be underestimated.

Over last 28 years total number of free surgeries done, within the state including minor operations was more than 3000. As such we are in line with authors who have talked of affordable treatment [5].

Major oncologic surgeries are quite common in large institutes, and in metropolitan or tier two cities in India. From our perspective most of this was done for the first time in district hospitals sometimes, and some times more than two, three times in the same district such as Sehore.

Overall, the program spread over 28 years, enabled capacity enhancement, including teaching district doctors methods of regional anaesthesia also contributed to ‘technology transfer [8]. Training in palliative care has a benefit which is well known. Doing surgeries with synergy of both the government doctors and staff and our team, created a momentum and contributed to improvement in overall standards of care after radical surgery.

There is scope for further expansion and improvement. For example, selected doctors of district hospitals themselves can be invited for surgical camps, if permitted by

powers that be. This will create a huge human resource bank for an activity that is replicable. As an exception, they should be stationed at one district so that they can link up with regional cancer centers or tertiary cancer facility nearby.

We were impressed by the energy of the doctors, the paramedical staff, the nursing staff and the support staff, who were always willing for working harder. The camps would not have succeeded unless supported by district administration, also known as the district magistrate or the Collector in central India. Some of these projects, particularly those related to palliative care were carried out under time bound grants, sustainability beyond specific time frame is an issue.

Acknowledgements Grateful acknowledgement; Mr Wasim Akhtar, IAS retd, late Dr Anil Sharma and Dr Vikas Gupta.

Compliance with Ethical Standards

Conflict of interest The authors declare that no conflict of interest.

Human and Animal Rights This article does not contain any studies with human participants or animals performed by any of the authors.

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