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Immunotherapy: An Answer for Cancer?

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Abstract

Objective: Conventional treatment offers no solution to advanced cancer patients in developing countries like India. The aim was to find out if the history of Indian and world medicine reveals any answers for such patients.

Methods: The evidence based therapies tried in clinical cases were recorded from world literature on oncology. The only selection criterion was advance cancer patients in whom conventional treatment was tried and failed.

Results: The parameters of results were mainly a) palliation of symptoms b) increase in life span c) disease free survival. The methods tried in literature were used in our patients and results of original authors and our results were compared and recorded. Pathophysiology of each method was discussed independently.

Conclusions: Best results were obtained where conventional destructive methods were complimented with boost to patient's immunity. Principles of Dr Jenner's vaccine therapy were utilised. Though histologically, patients may suffer from one pathology (i.e. Gastric cancer), each patient may give different immunological response to immunotherapy. Hence each patient was immunological stimulated against his own tumour by totally or partially destroying his tumour *in situ* with physical agents like patients own urine, or heat, anoxia and powerful allergens from plant extracts. Our survival rates are 3% over 10 years of disease control. In other 97% patients, about 30% had substantial palliation. Rest died at home shortly and follow up was not possible.

Keywords: Immunity, Immune therapy, Cancer

Introduction:

Population of India is 1.3 billion [1]. Two thirds of this crowd lives in villages [2]. The socio-economic condition of these villagers is such that 50% of patients, who reach hospital first time, have advanced malignancy. The conventional treatment (surgery, chemotherapy, radiation and combinations is essentially palliative). The chemotherapy drugs are very costly and unavailable for most of the patients. We decided to explore methods available in ancient India which was leading world in all walks of life (5000 years B.C) Ayurveda (science of life) does not mention 'cancer' or 'malignancy' in its literature. The only words are GULMA (i.e. swelling) or VRANA (i.e. ulcer). The practitioner is advised to keep away from patients suffering from these diseases because it results in failure of treatment. We consulted VAIDYAS (physicians) from base of Himalayas to Sri Lanka. Families of these physicians practised indigenous medicines for centuries and handed their art to their progeny by oral instructions and manual demonstrations. Those who claimed "cancer cures" were invited to K.E.M hospital to demonstrate their art under supervision of our team of experts (physicians, surgeons, radiotherapists and pathologists).

The entire project was a failure. Concurrently, we scanned oncology literature of Western world (from 18th century onward). There were many documented reports of success in managing cancers. However, we did not have facilities and funds to reproduce same results. Hence, we introduce changes suitable to Indian conditions and tried them in our work.

The method used by the original author, his results, along with our method (with or without modification) and our experience are grouped together chronologically.

Materials and Methods

- Our sole selection criteria were advanced cancer unsuitable for conventional therapy or where such therapy had failed. The sex, age, nature or stages of disease were irrelevant.
- Informed consent was obtained. The patient was given a choice of treatment, from the list of procedures suitable to him (as prepared by authors). Basic clinical investigations were carried out and complimentary treatment (antibiotics, analgesics, blood transfusions etc.) was given when required.

Tumour markers were checked if patient could afford. Basic parameters of assessment were subjective and objective improvement, near normal comfortable life and increase in life span.

Auto Urine Therapy (Shivambu) (5000 BC):

This is earliest Ayurvedic therapy. The patient drinks his own urine excreted in the morning. The concept is "good elements in body are excreted in morning sample in the urine. If returned to the host they rejuvenate him". The scientific proof was provided in 20th century in geriatric hospitals in USA. The patients are found to excrete large amount of urokinase in their urine after myocardial infarct. The urokinase analogue (streptokinase), if given IV immediately after infarct, reverts the patient of myocardial infarct to normalcy. No

laboratory studies were possible in Ayurvedic times. In clinical practise many who are known to follow auto urine therapy from young age, live a healthy life without need of medications.

A world famous example is Shri Morarji Desai [3] (Former P.M. of India during turbulent political period). He started auto urine therapy in childhood and never needed any medicine till his death at age of 99 years. The urine is easily available but patients are averse to drink it. Some Mexican studies have reported about antitumor properties of human urine [4].

Birth of Immunotherapy (1796):

Dr. Jenner, a family physician in London noted that milk-maids who suffered from cowpox became resistant to diseases like small pox [5]. He asked his teacher, Mr John Hunter, if one should do a clinical trial. He received that world famous advice, "Don't think, and try it". He did try and the science of immunotherapy was born. The principle of therapy is simple. One gives a dose of virus or bacteria (attenuated or dead) to person and his immune system is stimulated to produce antibodies which destroy the invader. Today many infections are eliminated by active or passive immunisation. Attempts to treat advanced case of malignancy by giving cross-transfusion of blood among two patients have failed in the past. Today scientists from West are trying to develop antitumor vaccines on war footing. We believe that attempts by medical men to kill tumour *in situ* by heat, chemicals or by targeted drug therapy have same bases like Jenner's vaccination.

Total Body Hyperthermia (1891):

Dr. W.B.Cooley induced total body hyperthermia in patients of advanced malignancies by injecting streptococcal toxin in them. Many of them had miraculous improvement [6]. He attributed it to the hormonal and metabolic storm created by hyperthermia in patients. But other scientists could not reproduce the same results. Others too tried hyperthermia by suspending anaesthetised patients in warm bath. A few used heart lung machine with perfusion of warm blood with or without chemotherapy drugs added to perfusion, hoping that hyperthermia would increase the uptake of drugs. But still no concrete results were obtained. We also tried hyperthermia in advanced malignancies by injection of sterile milk or serial injections of TAB vaccine. Some developed high temperature but except subjective improvement for a short time, there was no prolongation of comfortable life in all cases [7].

Chemosurgery (1938):

Dr F.E.Mohs produced permanent cure by his chemosurgery in skin malignancies like rodent ulcers, epithelioma and melanoma [8,9]. He used to paint the lesions with zinc chloride. The chemical caused fixation of tissues. The staged excision was carried out by a surgeon, navigated by a pathologist. He produced permanent cures. Our patients hardly come for follow up on long term basis. We selected fungating sarcomas in limbs and melanomas, which came for bleeding, secondary infection or severe pain. The tumours were inoperable due to fixity and distant metastasis. The breast cancer patients arrived late with cutaneous spread (peau deorange or Cancer en curasse). Zinc chloride was not available to us. We painted the lesions with 0.4% formalin solution. The bleeding stopped, infection came under control and the best part of palliation was relief from pain. Formalin probably fixes the sensory nerves permanently. Needless to say, these patients needed complimentary treatment with hormonal manipulations or intrathecal hypertonic saline. Small lesions were controlled by silver nitrate or copper sulphate chemical cautery. In our opinion the prolonged control of malignancy was more due to patient's immune response to the residual tumour.

Plant Products (1973):

Though Prof. B.G.Vad (Physician, J.J. Hospital, Mumbai) was using extracts of Bibba seed (Bhilava, marking nut, Semicarpous anacardium) since 1930, in various malignancies, he published his results in cases of synovial sarcoma, haemolymphatic tumours and oesophageal cancers in 1973 [9]. The hard nut is attached to a fleshy edible fruit. The extract of the seed can be obtained in many ways. The extract is highly potent allergen. On contact with living tissue, it causes secretion of histamine. The tissue becomes inflamed, oedematous and sloughs out. The body also shows sign of allergy in form of itching and wheals. In malignant oesophageal obstruction, Prof. Vad noted good symptomatic relief. The dysphagia was relieved, the pain lessened and oesophagograms showed restoration of lumen. Biopsies were not done. The patients lived beyond expected life span.

Though the trial was not conducted in a standard scientific manner, the scientists of Indian Cancer Society supervised the toxicity studies, action of extract on tumours cells and complications. Some scientists attributed the destruction of tumour to mild radioactivity in the extract of seed. It is our understanding that severe allergic response of oesophageal tissue resulted in destruction of stricture and the strong immune response from the body prevented rapid recurrence of malignancy. The palliation and quality of life was acceptable in the terrible disease like malignant oesophageal stricture. Today advances in thoracic surgery are such that surgeons do not find contraindications for oesophagectomy in any case. These advanced cases are treated with a combination of surgery, chemotherapy and radiation. We usually get patients with disease beyond surgical control. We prefer to use the extract of Bibba in alimentary system because the extract can come in direct contact with tumour producing the required allergic response. Palliation of symptoms and prolongation of life are only parameters which are available to us without any statistical data.

N.I.H Drug Trials In USA (1980s):

National Institute of Health, USA, used to send bulletins about the results of drug trials conducted by various institutions connected to it. Active participation from India was not possible for want of drugs and facility. But we accepted the part dealing with nutrition of patients. Our patients were under nourished, underweight and deficient in immunity. It was possible to give them large doses of Vitamin A, C, E and antioxidants orally. It was impossible to give them wheat germ extract, fruit juices and carrots round the year as advised in Ayurveda. We had no facility of studying changes in immunity of patients. However, the experience with nonspecific immune-modulator drug-levamisole was an accidental finding in case of pancreatic ampulla malignancy post-surgery, post chemotherapy and post radiation. The patient had recurrent disease even after all three modalities were used. He accepted only Immunomodulation from our list. He was put on Levamisole (a paediatric deworming drug) given fortnightly. Till date, his C.T scans and Ca 19.9 have remained normal (2002-2016) and he is living an asymptomatic life [10-12].

Devascularisation of Malignant Tumors:

This is an ancient, emergency procedure for bleeding, solid malignant tumours employed successfully by hermits, barbers, surgeons and lately by interventional radiologists. Irrespective of nature of tumours, the bleeding area is cauterised by heated metal rods, acids, boiling oil or water [13-15]. Not only it saved the life but sometimes the tumour regressed (auto cure?) Cases of gastric cancer (linitis plastica) are on records, when excision was impossible and only ligation of feeding vessel was tried. It was followed by cure or quiescence of tumour. This impressive outcome was attributed to blocking of blood supply. After going through the history of oncology, we believe that the surgical devascularisation results in total or partial death of tumour *in situ*. The remaining tumour initiates an immune reaction and self-destruction.

Devascularisation can be achieved by embolization or ligation of main blood vessel (Kidney, spleen and ovary). In multicentric tumours of urinary bladder or stomach, irrigation of viscera with boiling water under pressure (hyperthermia, hyperbaria) has been tried. Injection of BCG vaccine in inoperable bladder tumour is now internationally approved immunotherapy [16]. Our patients of gastric or bladder tumours are too advanced for boiling water therapy, we find irrigation of these viscera with 0.4% formalin is as effective and safe.

Thermocoagulation (1967):

Dr Madden used this method to treat rectal malignancy cases presenting with obstruction. He debulked the rectal lumen and relieved obstruction by gutting the tumour by cautery. Many patients had prolonged normal life, unexpected for such patients. This is another example of immune process generated by destruction of malignancy *in situ*. But Dr Madden did not think on this line. He called it a preferable method to treat rectal carcinoma. Relating Dr Jenner's work to Dr Madden's procedure 170 years later may be considered absurd today.

Hyperthermic, Exsanguination, Acidic Tumour Perfusion/Infusion (1972):

Dr Patel considered the combination of heat, anoxia and low pH will create most lethal effect on delicate malignant cells *in situ*. It was proved that melanoma cells have selectively higher sensitivity to these adverse factors than the normal tissue of host [17]. Such simple procedure was more useful to Indian patients than total body hyperthermia or complicated perfusion of limbs with cytotoxic drugs. Unfortunately, it could not be offered to substantial number of patients. In developed countries, it appears to have been abandoned.

Discussion

For a retrospective study, spanning 8 centuries, discussion is superfluous. We have presented Evidence Based Treatment suitable for a developing nation in which the patients exceed facilities. Information gained in this study forces us to alter our concept of cancer. We live in an atmosphere full of carcinogens. Only our immunity (natural, acquired or specific) protects us from developing cancer. Just like birth and life, death is needed to continue human life cycle. Development of cancer is incidental.

To create cancer free human race, scientist will have to tweak DNA and stem cells, but interference with nature may result in producing immortal Frankenstein's. To survive against cancer, today the treatment aims at killing every malignant cell in the body, but along with cancer cells normal cells and immunity is also destroyed. The new cells can mutate and again give rise to cancer. Our study clearly shows that the destruction of cancer cells must be accompanied with improvement in nutrition and immunity of host. This allows him to endure cancer comfortably even if it is not cured.

We have concentrated on methods used in past which have given the best results in history and we have selected the modalities which are practical for our patients. We have modified the procedure (i.e. use of formalin, TAB vaccine, milk injection etc.) where facilities are unavailable, but never refused palliation to a dying patient. In our ten years of cancer control, 3% survival rate may appear microscopic, but in comparison to 100% mortality it is not negligible.

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