

Diabetic Foot and Heberprot-P

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Fifth anniversary of diabetic foot programme with Heberprot use. Two stamps issued by Cuba-2012



Fight Against Diabetes. Diabetic amputee on wheel chair Stamp-Dominican republic, 1974

Foot problems in diabetes as we know are so common due to peripheral neuropathy, peripheral vascular disease, abnormal foot pressure, mechanical risk factors like limited joint mobility associated with increased foot pressure and impaired resistance. In India due to various socio-cultural practices like barefoot walking and lack of knowledge of foot complications and socioeconomic status of patients, foot complications are a major cause of hospitalisation for people with diabetes. According to ADA people with diabetes are 25 times more likely to lose the leg than people without the condition. It is calculated that foot problems may account for 40% of health care resources. India has been designated as “diabetic capital” in the world with more than 60 million people and a future estimation of 100 million by the year 2030.

Prevention is therefore the best measure. Identification of at risk foot, education and annual foot check up is therefore very essential. Treatment of foot ulcers must combine-Relief of pressure and protection, restoration of skin perfusion, treatment of infection, proper glycaemic control and local wound care. This is best achieved through an efficient foot care team consisting of diabetologist, vascular and podiatric surgeon, diabetic educator and nurse.

Heberprot -P is an innovative Cuban product containing recombinant human epidermal growth factor for peri and intralesional infiltration. It was developed in Cuba and registered in 2006 and in 2007 was included in Cuban National Basic Medication list and approved for marketing. It is now being registered in 15 other countries, enabling treatment of more

than 100,000 patients. Local injections in complex diabetic wounds has demonstrated a favourable risk-benefit ratio by speeding healing and attenuating amputation risk.

It has been shown that diabetic patients have decreased growth factor concentration in their tissue, particularly epidermal growth factor. Growth factor shortage impairs wound healing, which leads to chronic non healing wounds. Ischaemic foot diabetic ulcer is the most difficult to treat and confers the highest amputation risk. Injecting epidermal growth factor deep into the wound bottom and contours encourages an effective pharmacodynamic response in terms of granulation tissue growth and wound closure.

Drug is currently in use in Cuba, Ecuador, and Dominican Republic. In 2012, China and Russia started advanced stage three tests of the drug along with colleagues at 100 hospitals throughout European Union. For advanced cases generally 3 injections per day for three weeks are needed. Dr. Pedro Lopez CIGB's director is convinced that chief investigator Berlanga* has made a significant discovery. Heberprot seems to work slightly better in men than women, something to be looked at in the next study. There certainly would seem to be a market in view of growing global epidemic.

Drug and clinical trials have been looked over by scientists in USA calling the drug “very clever”, but the political situation between US and Cuba may have some effect on drug being formally evaluated in USA. Some US officials have questioned the industry's real purpose, alleging its façade for military research to manufacture biological weapons. Cuban scientists have dismissed the charge.

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The drug is manufactured at Havana centre for Genetic Engineering and Biotechnology (CIGB). The centre has celebrated 25th anniversary in 2006. Cuban postal authority has issued commemorative set of 2 stamps on diabetic foot and Heberprot on completing 5 yrs of Heberprot. CIGB has produced an array of health care products for sale in the Global pharmaceutical market. Due to the efforts of CIGB's 1200 researchers country has patents pending on some 150 new medicines and technologies that treat range of diseases

Amputation surgery in US can cost up to \$65,000. In the developing world Heberprot costs considerably less, with full cycle of treatment to prevent amputation costing between \$18,000 and \$28000.

Finally as with any new "wonder drug", due caution is necessary. Although 5 years have passed since its introduction, further testing and deployment of Heberprot-P worldwide would provide an opportunity to assess its true safety.

References

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