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NEWS

US researchers blocked from testing Cuban drug

Jeanne Lenzer

Havana

The ongoing US blockade of Cuba is preventing US researchers from studying a drug they say is highly promising and could reduce the need for amputations caused by diabetic foot ulcers.

The drug, human recombinant epidermal growth factor (hrEGF), sold as Heberprot-P, was developed by Cuban researchers at the Center for Genetic Engineering and Biotechnology in Havana. Cuban doctors say it has dramatically improved granulation of intractable diabetic foot ulcers.

Randomised placebo controlled trials of patients with Wagner grade 3-4 diabetic foot ulcers found that injections of hrEGF at 75 µg, three times per week, led to absolute risk reductions of major amputations ranging from 13 to 30% (relative risk reduction up to 71%).[1-3] A Turkish study of 17 patients, 16 of whom were recommended for amputation, were all successfully treated with the drug and no patient required amputation.[4]

Despite the thaw in relations between the US and Cuba—culminating in the US president's historic visit to the island this week—the US embargo remains in place. Countries that trade with Cuba are banned from commerce with the US, depriving Cuba of much needed goods and services from other countries.

David G Armstrong, professor of surgery and director of the University of Arizona's Southern Arizona Limb Salvage Alliance, told *The BMJ*, "It just rips me apart to know that there may be something out there that has the potential to save limbs and we can't get a chance to thoroughly test it because of politics rather than public health."

Elof Eriksson, chief of the division of plastic surgery at Brigham and Women's Hospital, said that the drug should be studied as it had the potential to reduce some of the many amputations caused by diabetic foot ulcers.

According to the US Centers of Disease Control and Prevention there were 2.2 diabetes-related lower limb amputations per 10 000 people in the US in 2009.[5] Figures from the Organisation for Economic Cooperation and Development show there were three amputations per 100 000 people in the UK in 2013.[6]

New regulations issued by the US treasury department in September 2015 let US businesses export goods to Cuba, but with private businesses. Commerce with the public sector, such as hospitals and drug companies, is prohibited. Drugs and medical equipment cannot be exported to Cuba under normal trade terms; each item must receive a license from the US treasury and sometimes the commerce department as well.

Odalis Vazquez Diaz, head of the provincial service specialties in angiology and vascular surgery at Jose R Lopez Tabrane Hospital in Matanzas Province, told *The BMJ* that the drug had made a dramatic difference for patients, particularly those in underdeveloped countries where doctors often resorted to amputation early in the disease because of a lack of resources to manage treatment without amputation.

Heberprot-P was approved by Cuban authorities for intralesional infiltration in 2006. Approximately 30 countries, including Kuwait, Nicaragua, Brazil, Ecuador, Venezuela, Russia, and China, are currently testing hrEGF in clinical trials.

1 Fernández-Montequín JI, Valenzuela-Silva CM, Díaz OG, et al. Cuban Diabetic Foot Study Group. Intra-lesional injections of recombinant human epidermal growth factor promote granulation and healing in advanced diabetic foot ulcers: multicenter, randomised, placebo-controlled, double-blind study. *Int Wound J* 2009;6:432-43.
2 Berlanga J, Fernández JI, López E, et al. Heberprot-P: a novel product for treating advanced diabetic foot ulcer. *MEDICC Rev* 2013;15:11-5.
3 Yera-Alos IB, Alonso-Carbonell L, Valenzuela-Silva CM, et al. Active post-marketing surveillance of the intralesional administration of human recombinant epidermal growth factor in diabetic foot ulcers. *BMC Pharmacol Toxicol* 2013;14:44.
4 Ertugrul BM, Buke C, Saylak Ersoy O, Ay B, Demirez DS, Savk O. Intralesional epidermal growth factor for diabetic foot wounds: the first cases in Turkey. *Diabet Foot Ankle.* 2015. 2015-08-11 2015;6.
5 Age-adjusted hospital discharge rates for nontraumatic lower extremity amputation (LEA) with diabetes as any-listed diagnosis per 10,000 population, United States, 1988-2009. 2009. www.cdc.gov/diabetes/statistics/lea/fig7.htm.
6 Organisation for Economic Cooperation and Development. Health at a glance 2015. 2015. www.oecd.org.