Polio Eradication in Pakistan: The Real Reason for Our Failure

Sir,

The recent gunning down of polio workers in Pakistan has seen the polio eradication campaign in Pakistan take a major setback.[1] Failure to contain the polio endemic may force international communities to impose a travel ban on Pakistan in the upcoming future especially after polio virus was discovered in Egypt from Pakistan.[2]

The Government of Pakistan states numerous reasons for the growing polio endemic in Pakistan citing primarily 'refusal families' and militancy. However, the Pakistani Government refuses to acknowledge that the major drawback for the failure is mainly due to the lack of polio vaccination coverage. A number of studies have shown that the coverage of vaccination program is far below than that required for eradication even in the zones unaffected by violence.[3] The measles epidemic in the interior areas of the province of Sindh (considered to be one of the most peaceful areas of Pakistan) also strongly contradicts the Government's viewpoint and highlights the failure of public health preventive strategies as the primary culprit. The 306 deaths and 14000 reported cases attributable to measles in 2012 highlight the failing vaccination program of Pakistan, beleaguered with corruption.[4]

While militancy, especially in the FATA and North Waziristan areas of Pakistan may have compounded the polio campaign with many children at risk, independent assessment using Lot Quality Assurance Sampling surveys have shown massive improvement in coverage trends in these areas.[5] Secondly, there are currently no studies to support the notion of militancy alone as a hurdle with the number of polio cases in the metropolitan city of Karachi alone dictating that there are other reasons of the polio endemic.

The blame for a rising community demand for polio eradication is also not valid. In an interview to The Lancet, a world renowned Child Health Expert from Pakistan, has denounced this notion based on large scale surveys and has stated that placing the blame in the laps of community is an "Ideal way to absolve the vaccination program of its responsibilities".[1]

Although the number of polio cases in Pakistan have decreased from 2011 to 2012, Pakistan was the only country in the world with such high number of polio cases, higher even than the other two endemic countries Nigeria and Afghanistan.[5] We, therefore, suggest that while there may be many problems, the need to strengthen the vaccination program cannot be overstated.

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Commercialization of Gene Therapy Drugs

Sir,

Gene therapeutic research has been considered a risk based approach and faced many challenges in the past, as many ethical issues arose particularly after the first death caused by gene therapy in 1999.[1] However, the journey of this research continued with difficulties from 1989 till it achieved its first success in 2000, with successful treatment of two children.[1] In 2004, the production of Gendicine[2] (Adenoviral-P53 for different cancers) in China, and its demand in neighbouring countries (http://www.financialexpress.com/news/gene-therapy-could-be-here-soon/687507/0) for clinical practices, stepped up the gene therapeutic research worldwide. More than 1000 cancer patients from all over the world, were treated without facing any side effects or ethical problems from 2004 to 2008.[3] This breakthrough resulted in the development of various gene therapeutic drugs like ADVEXIN/INGN 201 (Ad5CMV-P53 for a variety of cancers)[4] and TG1042 (adenoviral-mediated IFN gamma gene for tumors)[5] and also proved as a significant step in the revision of terms and conditions of ethical committees worldwide. Finally, in late 2012, GLYBERA (alipogene tiparvovec for lipoprotein lipase deficiency (LPLD) was approved by European Commission (EC) as the first gene therapeutic

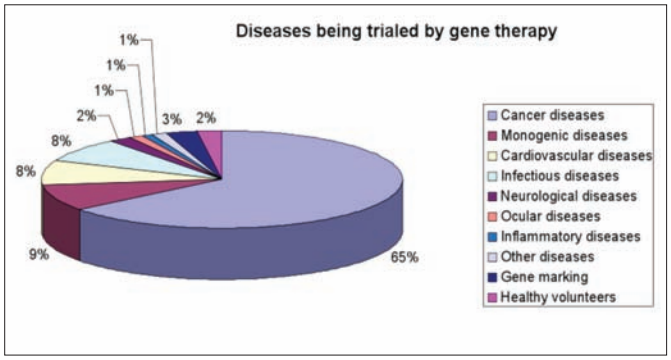

Figure 1: Diseases being trialed by gene therapy from 1989-2012.

medicine in Europe for cardiovascular diseases.[6] Production of gene therapeutic drugs like Gendicine, Advexin, TG1042 and Glybera has revolutionized the biopharma industry.

This temptation resulted in about 900 clinical trials worldwide till 2004.[1] By the end of 2012, circa 1900 clinical trials of gene therapy were reported. Most of these have been focused on cancer (64.7%) alone, followed by monogenic hereditary diseases (8.7%), cardiovascular diseases (8.4%) and infectious diseases (8%). Details of various other groups of diseases, which have been trialed by gene therapy, are shown in Figure 1.[7]

The production of gene therapeutic drugs and their availability in global markets helped to show that gene therapy is no longer a dangerous therapy. Criticism always remains a common phenomenon over all breakthroughs in the world. As the research of gene therapy has passed from a very critical point, is it not the time to carefully apply these breakthroughs in our daily routine clinical researches to have better results and analysis? If still we will not consider these drugs, then how can we predict the future of gene therapy research?

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