

**AstraZeneca Vaccine: Should we be concerned**

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*Madam*, Oxford's AstraZeneca vaccine has become particularly undesirable among the general population despite the alarming increase in the number of COVID-19 cases. It is a viral vectored chimpanzee adenovirus (ChAdOx1) encoding the spike protein of SARS-CoV-2 which allows the virus to attach and fuse with the host cell membrane, enabling antibody generation. Clinical trials were done in the UK, Brazil, South Africa with 23745 participants over the age of 18, and had an efficacy of 62.1%.<sup>1</sup> It is administered intramuscularly in two doses, 8 to 12 weeks apart in persons over 40.

One major concern regarding AstraZeneca is the risk of thrombotic or embolic events. There has been a total of 28 thrombotic events that have been reported on the EV database of which 3 were fatal events. When compared to the total vaccinated population of 17 million, the extremely rare occurrence of these events should be noted. It is important to consider that the natural occurrence of PE and DVT is significantly high (56-182 events per 100000 persons) in a normal population when compared to one that is vaccinated. Furthermore, PE and DVT can be caused by other natural or genetic factors which make it hard to pinpoint them specifically to the vaccine.<sup>2</sup> While new study data continues to be considered, the WHO's SAGE and the European Medicine Agency review has confirmed that benefit-risk remains efficacious.<sup>3</sup>

As of May 25th, 2021, there have been 905,852 confirmed COVID19 cases and 20,400 fatalities in Pakistan, vaccines remain the single viable option to recover from this global pandemic. A total of 1.19 million people are fully vaccinated in Pakistan which is 0.6% of the population (data as of May 23rd); the road to a vaccinated population is long; lack of trust in vaccines prolongs the process.<sup>4</sup> There is a history of political and superstitious factors among the public that have hindered Pakistan from eradicating major viral infections, like the Poliovirus. It is imperative that existing superstitious doubts not be aggravated by

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presenting an incomplete picture of the adverse side effects of AstraZeneca. Another advantage is the cost-effectiveness of the vaccine at \$2-3 per dose; the COVAX facility has agreed to provide enough doses to vaccinate 20% of Pakistan's population given its availability.<sup>5</sup> The use of AstraZeneca should be encouraged, paralleled with guidance to seek medical help in case of adverse effects after vaccination.

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