# *Monkey Pox - Does the Pattern in Time, Place, and Person Suggest a Hypothesis*

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**Introduction**

On 23 July 2022, the WHO Director General Dr Tedros Adhanom Ghebreyses declared monkey pox as a Public Health Emergency of International Concern [PHEIC], overruling a committee of experts convened to study the issue. A survey revealed that nine of the members did not support the declaring monkey pox as a PHEIC as against six who supported it.

Shall we push the panic button? Well, we expect the 24 x 7 TV channels to do so; their survival depends on dramatizing every mundane issue. In an attempt to gain TRPs they can raise the panic levels so high that people suffer more from anxiety and phobic disorders than from the virus. Subsequently, we may see stakeholders with various conflicts of interest hijacking the agenda. We should know the enemy to combat the psychological warfare. As Sun Tzu, the ancient Chinese warrior-philosopher says:

***"If you know the enemy and know yourself, you need not fear the results of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle..."***

**Knowing the enemy**

The pandemic of Covid-19, which some honourable experts proclaim is not over yet, made us realize that in contagious diseases we have to fight our battles on two fronts – the disease itself and more importantly, the psychological front which leads to panic right from the policy makers to the people causing much collateral harm.

The name monkey pox itself is a misnomer. Monkeys and humans are accidental victims of monkey pox. The name has its origins due to detection of the virus from laboratory monkeys in Denmark around 1958. The virus is found more frequently among small animals like squirrels.

The virus belongs to the same family as smallpox virus. The eruptions have some resemblance to smallpox, however, monkey pox is much milder and self-limiting with case fatality rate varying between 0-10% in the African continent. Outside Africa it is near zero, perhaps due to better nutrition and access to health care. There is fever, muscle pain, swollen glands, and rashes which have to be differentiated from chickenpox, and other cases of fever with rashes. Human to human transmission is by intimate contact while respiratory transmission is possible, but not very efficient. The course of the illness is 2-4 weeks. Smallpox had a case fatality rate over 30%.

In Africa, monkey pox cases were identified in the 1970's in the last phases of smallpox eradication campaign. Heightened surveillance activities in this phase found this enemy,

which turned out to be a pickpocket compared to the killer smallpox. The cases of monkey pox were scattered in Congo and Western Africa.

Serologic and virologic studies in the 1980s by WHO in Africa detected antibodies in very few monkeys. More frequently, antibodies were found in Gambian rats and elephant shrews. Most of the human cases, around 75% were among poor children who lived close to animals and handled their carcasses. Among household contacts the secondary attack rate was less than 10%.

**The Enemy Invades other Continents – lessons which should guide strategy.**

In 2003, monkey pox infection of humans was identified in the US. This was traced to prairie dogs that were infected from African small mammals imported as exotic pets. Gambian rat, rope squirrel and dormouse from the African shipment of exotic species originating in Ghana were implicated.

The biggest ever outbreak of monkey pox outside the African continent began in May 2022. By first week of August 2022, over 25000 cases have been reported from over 78 countries. A total of 10 deaths so far have been reported from Nigeria (3), Central African Republic (2), Ghana (1), Spain (2), Brazil (1) and India (1). The current fatality rate from these figures can be estimated to be 0.04%

***"Knowledge of the spirit world is to be obtained by divination, the laws of the universe can be verified by mathematical calculations, but the disposition of the enemy is ascertainable through spies and spies alone."***

Thus spoke Sun Tzu in ancient times. However, today spying has scaled up and is termed surveillance both in the military and health settings. Some insights from surveillance data from the European continent give useful insights, which can help us to form strategy against the threat of monkey pox.

The European Union together with UK had reported 6892 cases by first week of July. Majority of cases, 42%, were aged between 31 to 40 years, and interestingly, 99.5% were males. Only around 10% needed hospitalization, and only 3 (0.04%) needed ICU admissions. Interestingly 43% of those affected were HIV positive, and around half had history of other sexually transmitted infections in the past [Allied Forces!]. There were no deaths. Only 0.33% of the cases were health care workers. Genomic studies indicated that the less virulent West African strain was responsible for the outbreak.

In UK which had more detailed surveillance, 97% of the cases were homosexual or bisexual men. Of these, 54% had history of other sexually transmitted infections, and 31.8% had 10 or more sexual partners in the last 3 months.

**The Indian Scenario**

So far there have been 8 cases of monkey pox in India, five of them with history of travel

abroad. There has been a death of a 22 year old man in Kerala who had returned from the UAE, the cause of death being encephalitis. He had also co-infection with Epstein-Barr Virus.

The Indian Council of Medical Research was quick off the starting block to isolate the virus and announce bids to interested parties for development of diagnostic kits and vaccines for monkey pox. Wish this prestigious institute has shown the same eagerness to tackle some of our endemic diseases with far greater lethality such as leptospirosis, Japanese Encephalitis, Dengue fever, Chikunguna and a host of others.

**Implications for preventive strategy from above epidemiological intelligence.**

***"...just as water retains no constant shape, in warfare there are no constant conditions. One who can modify his tactics in relation to his opponent, and thereby succeed in winning, may be called a heaven-born captain" Sun Tzu, in Art of War.***

Monkey pox, which is more common in children in its native Africa, is showing a different epidemiology outside this continent. The surveillance data from the West suggests that it is behaving more like a sexually transmitted disease like HIV and other sexually transmitted infections. And, fortunately, there is low fatality yet. Perhaps intimate handling of small animals and carcasses by undernourished African children makes them more vulnerable to both infection and a fatal outcome.

***"To fight and conquer in all our battles is not supreme excellence. The skilful leader subdues the enemy without fighting; he captures their cities without laying siege (no lockdowns please!); he overthrows their kingdom without lengthy operations in the field."***

***"This is the method of attacking by stratagem of using the sheathed sword." Sun Tzu***

***(Promote condom use among high risk groups)***

With these insights, our policy makers and our people should not panic. Promotion of condom use and safe sex, avoidance of multiple sexual partners, screening of blood donors, are all practices which we have refined over the years in our fight against AIDS. One thing in the Indian context is that while HIV transmission was more among gay males in the West, in India it was also frequent among people indulging in promiscuous heterosexual behaviour. And in North-East India, particularly Manipur, transmission was common among injection drug addicts.

Keeping these epidemiological factors in mind, we should put in place monkey pox surveillance among the high risk population as we have for HIV using the existing infrastructure. We should also augment our public health infrastructure so as to make our position unassailable to present and future threats. A self limiting disease with almost zero mortality in the healthy with access to health care as the European data indicate should not

be cause for panic or stigma.

A good public health infrastructure will serve like a strong army to ward off future threats from emerging and re-emerging diseases without causing panic among policy makers and people leading to knee-jerk reactions and collateral harm.

***"The Art of War teaches us to rely not on the likelihood of the enemy not coming, but on our readiness to receive him; not on the chance of his not attacking, but rather on the fact that we have made our position unassailable." Sun Tzu***

We have come full circle. Modified smallpox vaccine is being promoted to build up immunity against monkeypox. Edward Jenner looking down from heaven must be amused. Jenner improvised smallpox vaccination by using fluid from the lesions of milkmaids suffering from cowpox another milder cousin of the pox family. Today we are improvising vaccination for another milder cousin monkey pox using the smallpox vaccine! Edward Jenner must be chuckling on the fragility of humans on earth today going to great lengths to prevent a self-limiting disease. There are hundreds of viruses waiting to be discovered by virologists in the race to promote their careers and vaccine manufacturers, who have tasted success, to promote their vaccines. Do we envisage a future where we will have to take hundreds of vaccines to combat real or imagined threats?

**Something Odd About The Big Picture - Are We Missing Something?**

There is a discordant note in the recent pattern of simultaneous emergence of this not so novel infection which has been known to exist for over half a century. Particularly in countries in the Western developed world and far away in developed Australia. And so quickly cases are being reported from these parts. Is it spreading or really emerging from its latent form. Figure 1, shows the pre-pandemic distribution of monkey pox cases and Figure 2 shows the present distribution. It is literally emerging rather than spreading.

Monkey pox was detected in humans in African continent more than 50 years ago. Travel to and trade with Africa and the rest of the world was going on all these years. If it had to spread (it is not very contagious, the secondary attack rate is less than 10%), it had enough time all these years to reach every corner of the world. Did it? Was it lying latent in vast populations across the globe?

Why within a month it had emerged in 78 countries simultaneously. So fast with a very low secondary attack rate? Being predominantly among gay, bisexual, and men who have sex with men (GBMSM), and its co-existence with HIV infection which suppresses the immune system ring a bell? Was it lying latent like the zoster virus which flares up as herpes zoster often when there is immune-suppression?

There have been increasing reports of herpes zoster cases following Covid-19 vaccination (1, 2, 3, & 4). There is transient immune-suppression following the Covid-19 vaccination (5). The pattern of emergence of monkey pox also seems to coincide with highly vaccinated

developed countries, most of them in their second boosters.

**Need for scientific research with data sharing and transparency without polarization.**

The discordant note mentioned above only raises a signal. Association does not imply correlation. The uncertainties and concerns should be resolved with robust shared data. The Covid-19 pandemic was marked by polarization and unholy haste in implementing measures without deliberations and debate. This time around we should get all on board for a rigorous analysis of this strange pattern of monkey pox never observed in the past fifty years of its existence.

**References**

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**Figure 1: Distribution of Monkey Pox during Pre-Pandemic Period**

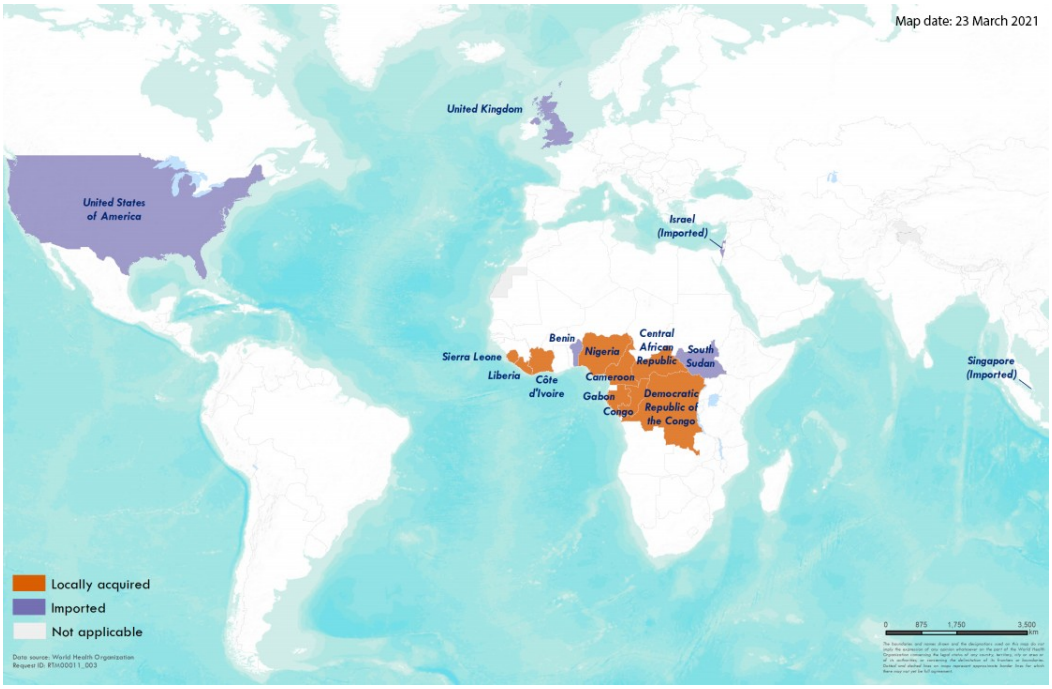


**Figure 2: Distribution of Monkey Pox Currently**