DEVELOPMENTS WITH IMMUNOCONTRACEPTIVES FOR ELEPHANTS

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SUMMARY OF PRESENTATION AND DISCUSSION COMPILED FROM RAPPORTEUR NOTES

The ideal immunocontraceptive control agent combines an antigen with an adjuvant in a vaccine which produces antibodies that render sperm incapable of penetrating eggs. This is not a new concept, and the technique has been used in over 90 mammal species so far. The antigen is derived from pig ovaries (zona pellucida proteins, isolated and purified). An adjuvant is added to increase the antigenicity. Delivery of the vaccine is accomplished by darts or "biobullets". The administration of three vaccinations in a horse provides protection for three years. Only fertilisation is inhibited and there is no behavioural change.

Four phases have been planned in the research programme to develop an immunocontraceptive for elephants, with the following objectives:

Phase 1: To prove the effectiveness of the vaccine in the elephant. Research to date shows that there is homology between pig and elephant zona pellucida, which is promising.

Phase 2: To test the vaccine in zoo elephants and establish the dose and other requirements. Trials are now ongoing.

Phase 3: To try the vaccine in 20 to 30 elephant cows in Kruger National Park for about five years. The animals will be fitted with radiocollars to track their movements.

Phase 4: To implement the vaccine on a wider scale, once a clear plan for the desired population (in Kruger) is established.

DISCUSSION

Question: Why not sterilise females over 40 or delay puberty in young females?

Answer: This would pose logistical problems in large populations but may have potential in small, relocated populations. It is possible that behavioural changes could occur as a result of repeating cycles and no pregnancy.

Comment: There is recent evidence that total destruction of all ovarian tissues occurs as a side effect (to immunocontraception), and other species may develop mammary cancer.