6.31 Production of neutralizing antibodies to venoms of *Naja nubiae* (Serpentes: Elapidae) and *Echis ocellatus* (Serpentes: Viperidae) snakes from Sudan

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Snakebite envenomation is a major health hazard in the rural tropics and subtropics. It was added to the WHO’s list of neglected disease in 2009. This study was aimed to characterize the immunologic properties of *Naja nubiae* and *Echis ocellatus* snake venoms and to produce neutralizing antibodies against the two venoms. Immunization of goats (using the low dose, low volume multi-site immunization protocol) produced high antibody titers against homologous venoms in ELISA (*Echis ocellatus* = 1.3 OD and *Naja nubiae* = 1.2 OD. On SDS-PAGE the two venoms showed protein bands ranging from ~ 8 to ~ 100 kDa with 11 bands shared by the two venoms. In western blots the two antisera reacted with the homologous venom antigens as well as some heterologous antigens. Chick biventer cervices nerve-muscle preparation analysis revealed high neurotoxicity of *Naja nubiae* venom with t90 value of 22.2 ± 1.9 min. *Naja nubiae* goat antisera produced in the current study effectively neutralized the neurotoxic effect of *Naja nubiae* venom whereas some commercial antivenoms, CSL (Australia), SVA (India) and Echitab-Plus-ICP (Costa Rica), raised against venoms from geographically distance countries, were unable to negating *Naja nubiae* neurotoxicity. Our results emphasize the need to generate specific antivenoms against venoms of medically important snakes in Sudan.