BLOOD TESTOSTERONE PROFILES IN BUFFALO BULLS

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A radioimmunoassay was developed for the measurement of testosterone in serum of buffalo bulls. Recovery of ^{3}H testosterone after extraction was 88 percent. The sensitivity of the method was 5pg per sample. Recovery of testosterone added to serum confirmed accuracy. This assay was used to determine the levels of testosterone in serum of buffalo bulls.

In experiment II three adult buffalo bulls were used to determine testosterone profile during a 24 hour period in different seasons. Serum testosterone ranged from 0.15 to 2.67ng/ml during a 24 hour period. Serum testosterone levels were significantly higher during November compared to February. Analysis also indicated significantly lower testosterone concentration during night time than day time (0.43 $\pm$ 0.05 Vs 0.73 $\pm$ 0.14ng/ml).

In experiment III testosterone profiles were determined in buffalo bulls of 1, 6, 12, 24 and 36 month age before and after GnRH injection. Testosterone levels ranged from 0.24 to 0.54ng/ml in 1 to 36 month old bulls. GnRH did not elicit testosterone response in one month old bulls, the highest response being observed in 36 month old bulls.

In experiment IV the effect of GnRH and $PGF_{2\alpha}$ on testosterone profile were tested in three mature buffalo bulls. In both $PGF_{2\alpha}$ and GnRH treated animals, testosterone peaked (0.9ng/ml) at about 2 hours and returned to basal levels within 6 to 7 hours. This synchronous pattern differed markedly from the testosterone episodic release in saline treated buffalo bulls.