Thesis Title	COMPARATIVE STUDY OF SALIVARY AND FREE SERUM PROGESTERONE DURING THE MENSTRUAL CYCLE
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ABSTRACT

Paired samples of blood and saliva from twenty healthy regular menstruating women aged 18-35 years were measured for progesterone by radioimmunoassay technique. Free serum progesterone was further assessed in the same paired samples after prior equilibrium dialysis. Salivary progesterone concentrations were determined by direct radioimmunoassay using ^{125}I-HIS-3CMO tracer. There was a highly significant correlation between saliva and free serum progesterone levels during menstrual cycle ($r = 0.835$, $p < 0.001$). The mean ($\pm$ standard deviation of the mean) salivary progesterone concentration increased significantly ($p<0.0005$) from 40.1 ± 12.3 pmol/L in the follicular phase

to 317.6 ± 162.2 pmol/L in the luteal phase. Either free serum progesterone (2.125%) or ratio of saliva to serum progesterone (range 0.5-2.9%) remained significantly unchanged throughout the menstrual cycle. Diurnal variation of salivary progesterone in five women has not been significantly observed neither in the follicular nor in the luteal phase. Progesterone profiles in three matched samples of saliva and serum related well to each other and to the progesterone peak observed approximately 7 day after luteinizing hormone ovulatory surge. Determination of daily salivary progesterone concentrations throughout the cycle in two patients provide a valuable means of assessing ovarian function.

Salivary progesterone reflects the unbound biologically active fraction of progesterone in blood and this non-invasive technique can be used for serial investigations involving evaluation of the endocrine functions.