

## **“PATHOGENESIS OF COCAINE INDUCED MIDLINE DESTRUCTIVE LESION: ROLE OF ABERRANT MITOSES IN HA CAT CELLS”**

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**Objectives:** Habitual insufflation of cocaine may cause extensive destruction of the osteocartilaginous structures of the nose, sinuses and palate, although its pathogenesis remains unknown. The aim of the present study was to evaluate the occurrence of cytotoxic effects induced by cocaine on mammalian cells in vitro.

**Study Design:** The effect of cocaine was measured in vitro on human epithelial cells (HaCat cells) at different concentrations and times of exposure.

**Methods:** HaCat cells were incubated with 10 mM and 100 mM of cocaine for 24 and 48 hours. Cells were fixed and studied by immunofluorescence.

**Results:** A high density of apoptotic events and aberrant mitoses, such as abnormal mitotic spindles with multiple poles, were found compared to the control group in both a time and dose dependent manner.

**Conclusions:** cocaine in vitro can induce dose- and time- dependent apoptosis in mammalian cells with anomalies in mitotic spindle formation, possibly associated with abnormalities in the number and function of centrosomes.