Introduction: The maternal behavior is related to the medial preoptic area (MPOA) - a dorsal hypothalamic structure, amygdala and the action of various hormones, such as oxytocin, estrogen and progesterone. In Munchausen syndrome by proxy, the mother imposes factitious symptoms in own child to get attention for herself. In this article, we try to correlate the neurophysiology of maternal instinct with Munchausen syndrome by proxy. Literature review: The neurophysiology of maternal instinct is related to neuroplasticity in the MPOA, limbic system and a number of hormones, all produced and or related to the hypothalamic-pituitary axis. The medial preoptic area (MPOA) triggers the expression of maternal behavior, because MPOA neurons express receptors for estrogen, progesterone, prolactin and oxytocin. The amygdala, area of the limbic system, is related to maternal aggression, being an expression of the maternal instinct. About Munchausen syndrome by proxy, there are descriptions of system change hypothalamic-pituitary-adrenal axis. The mechanism is possibly related to the lower activity of prefrontal cortex implicated in attenuation of amygdala activity. Assuming that the suppression of the hypothalamic-pituitary axis is related to the syndrome, we believe that the decrease stimulation on the axis generate lower production of hormones related to maternal instinct, and thus receptors in the medial pre-optic area fail to be stimulated. In most cases, Munchausen syndrome by proxy is associated with traumas or adverse experiences throughout life. The amygdala is a structure involved with the storage of negative experiences and maternal aggression, we believe that in this syndrome activation of negative memories areas could alter the protective response of the mother. Conclusions: Further studies are needed about the etiology, neurophysiological and hormonal factors of this syndrome. We suggest: diagnostic imaging and hormonal dosage in mothers with this syndrome in order to know the pathophysiology of the disease.