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Emotionally induced galactorrhoea in a non-lactating female –"Pseudo- Lactation"?

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Abstract

Background: Galactorrhoea is a common clinical problem in endocrinology. Visual and auditory cues from the newborn are known to stimulate prolactin secretion in lactating women. However, hyperprolactinaemia and galactorrhoea in a non-lactating female due to visual and auditory stimuli from an unrelated newborn has not been reported in the past. We report the first such case of 'pseudo-lactation'.

Case presentation: An 18-year-old girl with type 1 diabetes mellitus presented with galactorrhoea. Apparently galactorrhoea was preceded by seeing the baby, hearing her cries or when remembering her memories. Her menstrual cycles were normal and did not complain of any headache or visual disturbances. She was only on metformin and insulin. Symptoms have rapidly resolved after the newborn was shifted to another location. Examination revealed scanty nipple discharge with gentle pressure. Investigations revealed an elevated serum prolactin of 62.5 ng/mL (2717.4 pmol/L) and fasting plasma glucose of 142 mg/dL (7.9 mmol/L) and HbA1c of 7.6%. Her thyroid function was normal and MRI at the time of galactorrhoea was not available. At 3 months prolactin was normal and MRI revealed only a slight asymmetry of the pituitary without evidence of microadenoma.

Conclusion: The strong temporal relationship between her symptoms and emotional attachment to the newborn with exclusion of other causes on clinical, biochemical and radiological evidence, raise the possibility that transient hyperprolactinaemia was due to a transient lactotroph hyperplasia and hyper function which had been triggered by the stimulatory cues from the newborn.
Emotionally induced "pseudo lactation" may be a rare but important cause for transient hyperprolactinaemia in a non-lactating female.

Keywords: Pseudo-lactation, Galactorrhoea, Hyperprolactinaemia

Background

Galactorrhoea is defined as milk discharge from nipple in a non-pregnant non-lactating woman. However this is also known to occur in males as well [1]. Galactorrhoea is commoner among females aged 20 – 35 years particularly in previously parous women [1].

Galactorrhoea is often secondary to hyperprolactinaemia [2]. Prolactin hormone secreted by anterior pituitary lactotrophs acts on breast epithelial cells to stimulate milk synthesis. Secretion of prolactin is kept under inhibition by dopamine released from hypothalamus while thyrotrophin releasing hormone (TRH) is known to stimulate prolactin secretion [2]. Prolactin levels in humans show a diurnal pattern; highest levels being observed at night and lowest in the morning [3]. This appears to be independent of sleep pattern and therefore is thought to be true circadian rhythm mediated through the suprachiasmatic nuclei [3].

Effect of emotions and visual, auditory and olfactory stimuli on prolactin secretion are less well documented and are limited, often to animal studies. Happy, romantic or sad emotions have shown to increase serum prolactin levels in women but only marginally and probably to a functionally insignificant level [4]. Stressful life situations have shown mixed results. While some studies have shown increase in prolactin levels [5] others have detected a decline [6]. Academic stress has shown to increase prolactin release in several studies [7]. Olfactory stimuli from pups have shown to increase prolactin levels in lactating rats while ultrasonic auditory stimuli from pups have shown to stimulate prolactin release in both lactating as well as virgin rats [8]. Certain

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