母鼠針灸治療對早產老鼠肺臟肺表面張力素及抗氧化酵素的作用

Maternal acupuncture effects on surfactant and antioxidant enzymes in preterm rat lungs

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摘要.

這項研究的目的是評估母鼠針灸治療對早產老鼠肺成熟度的影響。針灸治療組以二支不鏽鋼針針灸懷孕大白鼠的後腿穴道－足三里(Tsu-San-Li)30 分鐘。針灸一天組的母鼠在懷孕第 18 天時接受針灸。針灸兩天組的母鼠在第 17 及 18 天時接受針灸。對照組母鼠則在懷孕第 18 天時於不包含在人體穴位圖集裡的一個位置接受針刺。在懷孕第 19 天時，以剖腹產手術取出小鼠。針灸兩天組的母鼠其胎鼠的肺組織總 phospholipids 量顯著地比對照組和針灸一天組母鼠的胎鼠高；而其胎鼠肺組織的 superoxide dismutase、catalase 和 glutathione peroxidase 活性卻顯著地比對照組和針灸一天組母鼠的胎鼠低。我們推定母鼠針灸治療對肺臟肺表面張力素及抗氧化酵素的作用是相反的，並且可能同時在肺臟發育上具有有利和潛在有害的作用。

Abstract

The objectives of this study are to evaluate the effects of maternal acupuncture treatment on lung maturation in preterm rats. Two stainless-steel needles were inserted into the Tsu-San-Li locus in the right hind leg of timed pregnant Sprague-Dawley rats for 30 min. One-day acupuncture-group mothers received electroacupuncture on day 18 of gestation. Two-day acupuncture-group mothers received electroacupuncture on days 17 and 18 of gestation. Control-group mothers received acupuncture at a site not contained in the Atlas of Human Acupuncture Points on day 18 of pregnancy. On day 19 of gestation, pups in all dams were delivered by cesarean section. Maternal 2-day acupuncture treatment significantly increased total phospholipids in fetal lung tissue when compared with control and 1-day acupuncture-treated groups. Two-day acupuncture-treated fetuses had higher saturated phosphatidylcholine level in lung tissue although the difference did not reach statistical significance. Two-day acupuncture-treated fetuses had significantly lower superoxide dismutase, catalase, and glutathione peroxidase activities than did the control and 1-day acupuncture-treated fetuses. We conclude that maternal acupuncture treatment

affects surfactant and antioxidant enzyme development in contrasting ways and may have both beneficial and potentially harmful effects on different aspects of lung development