

Changes in plasma cortisol and catecholamine concentrations in response to massage in preterm infants

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The biochemical and clinical response to massage in preterm infants was assessed. Eleven stable infants, of 29 weeks' median gestational age, median birth weight 980 g, and median postnatal age 20 days, were studied. Blood samples were obtained for the determination of adrenaline, noradrenaline, and cortisol 45 minutes before the start of massage and approximately one hour after completion of massage. Cortisol, but not catecholamine, concentrations decreased consistently after massage (median difference -35.8 nmol/l; 95% confidence interval -0.5 to -94.0, Wilcoxon matched pairs). There was a slight decrease in skin temperature (median difference -0.36 degrees C, 95% confidence interval -0.09 to -0.65) but there was no change in oxygenation or oxygen requirement. This study has shown that it is possible to detect an objective hormonal change following a supposedly 'non-therapeutic' intervention in preterm infants. The development of such methods of assessment are likely to be of particular relevance in the extremely immature or ill neonate in whom behavioural evaluation cannot play more than a limited part.