Conclusion: This case emphasizes the need for a careful clinical and imagiologic investigation in children presenting with signs of pituitary hormone deficiency. Early diagnosis can prevent further evolution and complications of hypopituitarism.

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MEASUREMENT OF HEPATIC TISSULAR rSO_2 USING NEAR INFRARED SPECTROSCOPY AS A WITNESS OF HEPATIC TUMOR REGRESSION

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Background and aims: Near InfraRed Spectroscopy (NIRS) is a tool for evaluation of local blood flow and oxygen consumption (VO_2) using measurement of regional oxygen saturation (rSO_2).

Purpose: To describe the feasibility and accuracy of the measurement of hepatic rSO_2 ($lirSO_2$) in an infant with tumoral syndrome in acute leukemia.

Methods: A 7 weeks old girl was admitted with asthenia, bleeding, respiratory distress and hepatomegaly. Hemogram showed 117000 leucoblasts/mm³, Hb=7.1g/100 ml, 24000 platelets/mm³. Blood gaz analysis showed : pH=7.37, HCO_3^- =18 mmol/l, $PaCO_2$ =31 mmHg and lactatemia=888 mg/l. Sonography showed a heterogeneous hepatomegaly. Diagnosis of acute monocytic leukemia (AML-M5) was made. Chemotherapy was started (ELAM 02 protocol). Infant was monitored using cardiac monitoring, continuous measurement of oxygen saturation (SpO_2) and invasive blood pressure. $CerSO_2$ and $lirSO_2$ were measured using NIRS. rSO_2 values were recorded every 6 seconds, hemoglobin and central venous SO_2 (SvO_2) in *vena cava superior* every 6 hours.

Results: rSO_2 measurement began 10 hours after the first chemotherapy (H0). SpO_2 value was $96.4 \pm 2.0\%$, $CerSO_2$ was $75.8 \pm 3.9\%$ SvO_2 values were stable around 70%, suggesting that there was no variation in systemic oxygen transport (TO_2). $lirSO_2$ value at H0 was $24.7 \pm 7.6\%$ and raised up to $74.0 \pm 2.5\%$ at H12.

Conclusions: NIRS provides a non-invasive assessment of $lirSO_2$ in acute hemopathies. The decrease in $lirSO_2$ could be the witness of tissular

hypoxia induced by myeloproliferation. Our data show an increase in $lirSO_2$ under chemotherapy. NIRS could be helpful to evaluate the decrease in VO_2 and the improvement of TO_2 during chemotherapy.

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6-MERCAPTOPURINE INDUCED SYMPTOMATIC HYPOGLYCAEMIA IN CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKAEMIA

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Background & aims: Although the most common cause of SH in paediatric acute lymphoblastic leukaemia (ALL) is over-treatment of hyperglycaemia with insulin, it is also associated with thiopurine usage. The aim of this study was to document the incidence of 6-mercaptopurine (6MP)-related symptomatic hypoglycaemia (SH) in paediatric patients undergoing maintenance treatment for ALL.

Methods: We retrospectively reviewed patients with childhood ALL at our centre to identify those with a history of SH. Hypoglycaemia was defined as a blood glucose level of ≤ 2.7 mmol/l. The mode of presentation, fasting times and laboratory investigations were documented.

Results: Three patients, 1 male and 2 female, were identified from 200 children enrolled in the current MRC-ALL 2003 treatment protocol using 6MP as the sole purine analogue during continuation therapy. The median age at presentation was 3.8 years (range 1.6-4.9) and the median time from commencing 6MP treatment was 107 days (range 82-479). All three presented with seizure-like events and required hospital admission. Fasting times were clearly documented in 2 patients at 15.5 and 12 hours. Critical samples were obtained in all three. All demonstrated an appropriate ketosis with normal gluconeogenic precursors. No definitive endocrine or metabolic abnormality was identified.

Discussion: The mechanism of 6MP-induced SH remains unclear but impaired gluconeogenesis has been hypothesised. Dose modification or discontinuation of 6MP deviates from best practice. Repeated fasting for anaesthesia is the norm for this population. Where possible, fasting times should be limited, and large evening and early-morning meals