

YH Sang, RTF Cheung

Department of Medicine, The University of Hong Kong, Hong Kong

Introduction: Effective treatments for intracerebral haemorrhage (ICH) are awaited to reduce its morbidity and mortality. Hypertension is the most important risk factor for ICH. Neurogenesis following ICH in normotensive rats has been confirmed. In this study, we used a rat renovascular hypertension (RVHT) model, and investigated the effects of hypertension on the pathophysiological and histological changes, and neural stem cell proliferation after induction of ICH.

Methods: RVHT was achieved by applying a silver clip onto the left renal artery. At 6 weeks after renal artery constriction, the mRNA levels of angiotensin II type 1 (AT₁) and type 2 (AT₂) receptors in the brain were determined by reverse transcription–polymerase chain reaction. ICH was induced by an intrastriatal injection of bacterial collagenase IV in the left brain in both normotensive and hypertensive rats. Left femoral artery was cannulated for continuous monitoring of blood pressure for 4 hours after the induction of ICH. Haematoma volume was quantified at 24 hours after ICH induction. 5'-Bromo-2'-deoxyuridine (BrdU) was used to label cell proliferation from the 6th day to the 9th day after ICH. Rats were killed at 10 days after ICH. BrdU⁺ and CD31 (an endothelial cell marker) immunoreactive cells were detected using immunofluorescence. Behavioural tests were performed at 1, 3, 7, 10, and 21 days after ICH.

Results: RVHT rats showed up-regulation of AT₁ receptor in the brain. Following induction of ICH, both the normotensive and RVHT rats demonstrated an acute hypertensive response. As compared to normotensive rats, RVHT rats demonstrated a larger haematoma volume, and greater deficits at all time-points. However, at 10 days after ICH, more BrdU⁺ cells were detected over the perihematoma area of RVHT rats than normotensive rats. Moreover, many BrdU⁺ cells within the ipsilateral basal ganglia of RVHT rats also co-expressed CD31.

Conclusion: Renovascular hypertension aggravates histological and functional injury partly via up-regulation of AT₁ receptor in the brain. Increased brain injury in hypertensive rats induces increased neural stem cell proliferation and angiogenesis after ICH. Experimental ICH in hypertensive rats is a suitable model for evaluation of pathophysiology and treatment of patients with hypertensive ICH.

Acknowledgement: This research was supported by CRCG grants (200707176018 & 200807176052), The University of Hong Kong.

SYN Shek, CK Yeung, SGY Ho, NPY Chan, HH Chan

Department of Medicine, Queen Mary Hospital, The University of Hong Kong, Hong Kong

Background: The objective of this study was to determine the patient satisfaction and clinical efficacy of a novel cryolipolysis device (Zeltiq) for body contouring in Chinese patients.

Methods: Twenty-two patients with 'discrete bulges' were recruited for this procedure. All patients received one single treatment using the Zeltiq Breeze System using treatment parameters of CIF 41.6 (-73 milliwatts/cm²) for 60 minutes at the desired anatomical region. The areas treated were flank, back, and abdomen. At baseline visit, their weight was measured and caliper measurement was taken at the maximum area of fat when standing. Standardised 3D photographs were taken with the Vectra Canfield System. They were followed up 2 months after the treatment and were assessed by the physician. Thereafter, they had their weight, subcutaneous fat measured by caliper and photographs taken. Subjective assessments were evaluated by means of a questionnaire. Any adverse effects were documented.

Results: The preliminary data generated by 21 follow-ups all reported that the treatment was tolerable. Objective assessment by caliper showed a statistically significant improvement as compared with control (P=0.001). Physician assessment showed good to very good improvement in 17 (81%) out of 21 subjects. Thirteen of them thought the treatment length was just right and eight thought it was too long. 70% of the subjects felt satisfied to very satisfied. Of 21 subjects, 17 (81%) reported noticeable difference in the area treated. Eighteen of them would recommend the treatment to family and friends, while three of them were unsure.

Conclusion: For patients desiring a localised fat layer reduction, cryolipolysis offers a non-invasive, no-downtime procedure with high patient satisfaction and clinical efficacy.