



# Frequency of vasoactive head injuries in rural UK HEMS service

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## INTRODUCTION

Our experience and some literature suggest that, contrary to traditional teaching, isolated traumatic brain injury (TBI) can be associated with haemodynamic instability in blunt trauma patients.

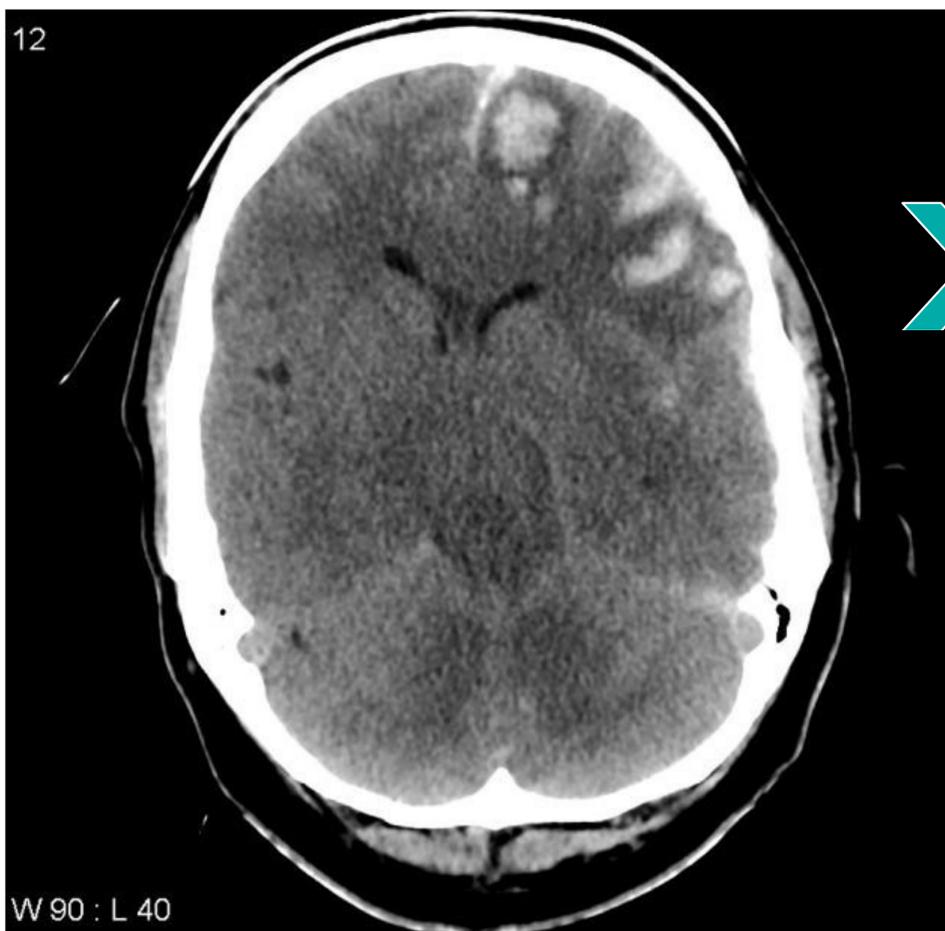
The purpose of this retrospective observational study was to evaluate the frequency of haemodynamic instability in blunt trauma patients with isolated TBI seen by our service.

## RESULTS

Out of a total 1874 patients we attended to during this period, 261 had RSI, out of whom 190 had a suspected traumatic brain injury.

Out of these 190 patients, 83 were adults with suspected isolated TBI on primary survey, of which 36 (43%) displayed haemodynamic instability. A total of 12 of these 36 patients had a confirmed isolated traumatic brain injury on CT scan.

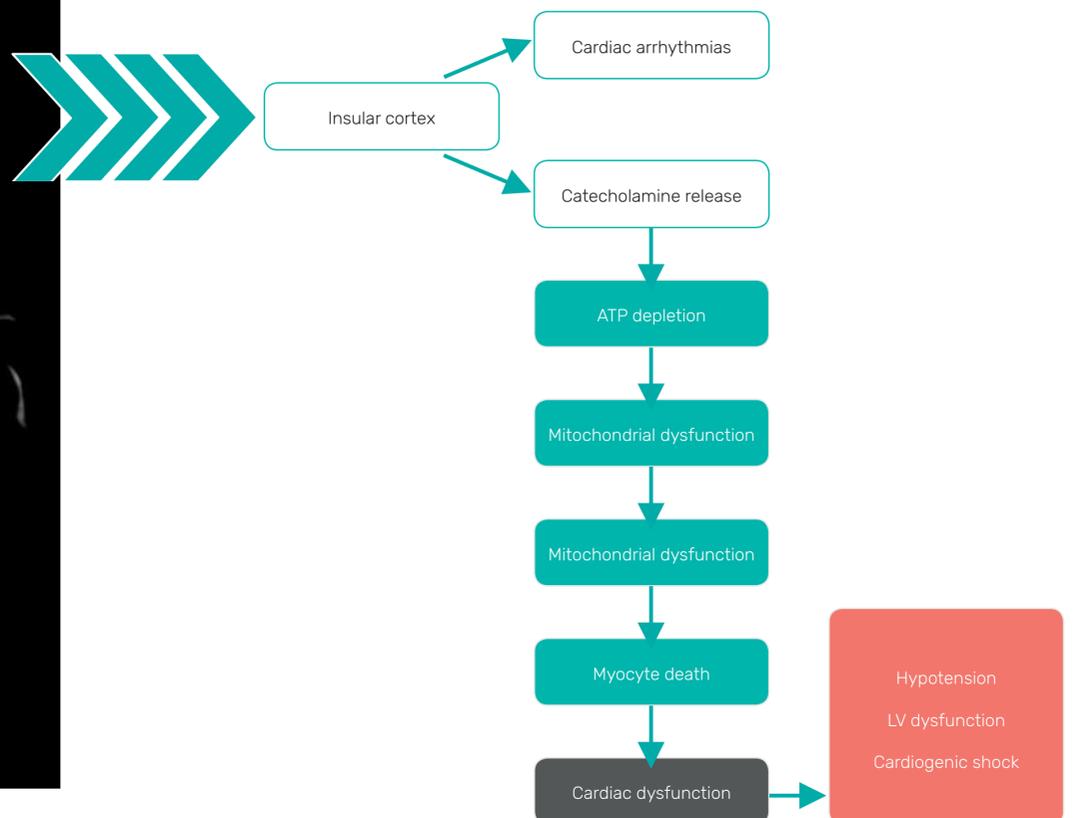
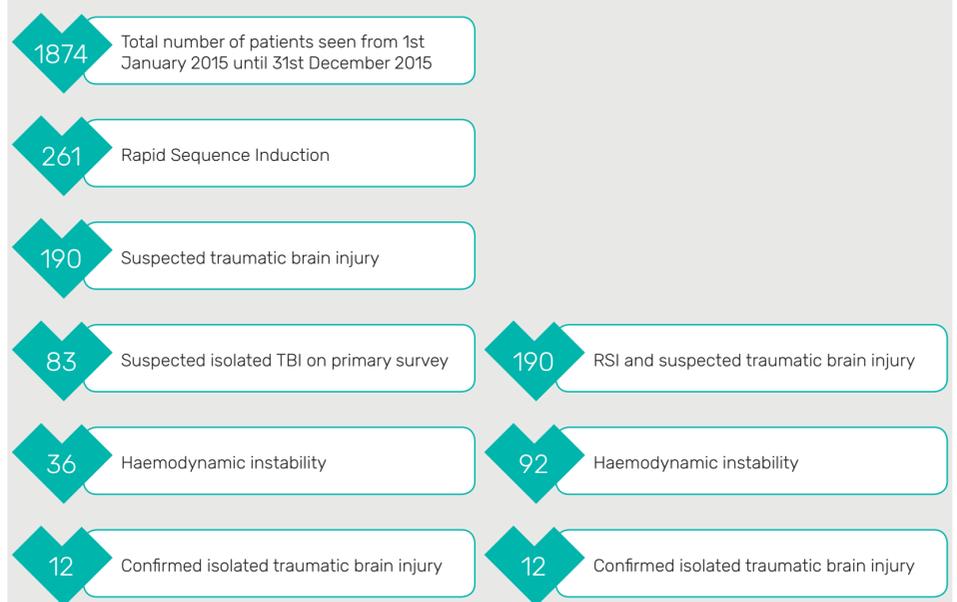
A total 92 out of the 190 patients showed signs of haemodynamic instability. Of these, 12 (13%) had an isolated head injury confirmed on CT scan with no other injuries to account for the clinical picture.



## RESULTS

We interrogated Kent, Surrey and Sussex Air Ambulance Trust database (HEMSBase) from 1st January 2015 until 31st December 2015. Inclusion criteria were adult patients (age ≥ 17) who had Rapid Sequence Induction (RSI), confirmed isolated traumatic brain injury and signs of haemodynamic instability before RSI (pulse > 100 bpm and/or systolic blood pressure < 100 mmHg). We excluded children and patients who had other injuries which could account for instability.

## FIGURE 1. CONSORT DIAGRAM



## CONCLUSION

For the above period, isolated TBI accounts for 13% of haemodynamic instability in blunt polytrauma patients seen by our service.

The treatment goals and management of haemodynamic instability in isolated head injury differ from those of hypovolaemia, which highlights the need for better understanding of this phenomenon and further research.

This data shows that hypotension should not be viewed only as a marker of hypovolaemia, but also as a possible sign of a vasoactive head injury and, if there is no suggestion of blood loss, should therefore be treated accordingly.