REAL WORLD EXPERIENCE ON THE MANAGEMENT OF MILD HEAD INJURY IN A COHORT OF CHILDREN WITH HEMOPHILIA A WITH AND WITHOUT INHIBITORS TREATED WITH EMICIZUMAB

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Background and Aims. Children with haemophilia have a significantly increased risk of intracranial haemorrhage (ICH) compared to the normal population; newborn have the highest risk of ICH, estimated to be 33-fold higher than general population (2,1% vs 0,062% per 100 live births); the great majority of ICH occur <2 years of age. Trauma is the main risk factor for ICH in children with haemophilia: mild head trauma is a common occurrence in this population, and there is a lack of data regarding its management. This work represents the experience of Turin paediatric haemophilia Centre in the management of mild head trauma.

Materials and Methods. We retrospectively collected from medical records of our patient in prophylaxis with Emicizumab, data about: age at the time of trauma, severity of head trauma, medical treatment. Mild head trauma is defined by a Glasgow Coma Scale (GCS) 14-15; GCS together with PECARN rules allow to distinguish children with mild head trauma in low, intermediate and high risk. Following PECARN rules, in children <2 years very low risk head trauma is defined by: GCS 15, no loss of consciousness, no severe mechanism of injury (fall >0,9 m; head struck by high impact object; motor vehicle collision with potent ejection, death of another passenger, or rollover; pedestrian or bicyclist without helmet struck by a motorized vehicle), no non-frontal scalp hematoma, no palpable skull fracture, and normal behaviour per caregiver. In children ≥2 years, very low risk requires: GCS 15, no loss of consciousness, no severe mechanism, no vomiting, no severe headache, and no signs of basilar skull fracture. Low risk patients (GCS 15 and no PECARN findings) can be discharged without a CT scan; for intermediate risk patients (only 1 PECARN findings) clinical observation is required; high risk patients (≥2 PECARN findings) CT scan is recommended.

Results. From February 2020 to April 2026, we observed 18 consecutive mild head traumas in 12 children (including 2 patients with inhibitor). All these events were managed with the collaboration of Emergency Department and Haemophilia Centre. Median age at time of trauma is 4 years old, with 8 events occurring <2 years of age. Only one patient required a CT scan for the presence of neurological symptoms. In 9 cases the high impact dynamics of trauma needed the administration of factor VIII concentrate. All the 18 traumas had a favourable outcome (table 1).

Conclusions. We managed the high impact traumas with factor VIII concentrate administration, while low impact traumas did not require replacement treatment. No ICH were reported in 18 mild head traumas. The synergic cooperation of Emergency Department and Haemophilia Centre plays a key role in the effective management of these events.

Table 1. Mild head injury during Emicizumab prophylaxis

Head injury number	Patient	Age at time of trauma	Inhibitor	Severe mechanism of injury	Head CT	Replacement therapy/bypassing agent	ICH
1	1	2	Yes	No	No	No	No
2	1	3	Yes	No	No	No	No
3	2	3	Yes	No	No	No	No
4	3	8	No	No	No	No	No
5	3	8	No	Yes	Yes	Yes	No
6	4	4	No	Yes	No	Yes	No
7	5	2	No	Yes	No	Yes	No
8	5	2	No	No	No	No	No
9	6	2	No	Yes	No	Yes	No
10	7	8	No	No	No	No	No
11	8	2	No	Yes	No	Yes	No
12	8	3	No	No	No	No	No
13	8	4	No	No	No	No	No
14	9	13	No	Yes	No	Yes	No
15	10	0,9	No	No	No	No	No
16	11	2	No	No	No	Yes	No
17	11	2	No	Yes	No	Yes	No
18	12	4	No	Yes	No	Yes	No