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ABSTRACT N. PO40

MANAGEMENT OF PAEDIATRIC PATIENTS AFFECTED BY MILD FACTOR VII DEFICIENCY UNDERGOING SURGERY.

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Introduction. Identifying perioperative bleeding risk in a pediatric population undergoing surgery is quite complex, as clinical history is often not particularly informative and laboratory tests can be influenced by multiple pre-analytical variables. The aim of the study was to evaluate the perioperative bleeding risk in a cohort of children with a borderline Factor VII deficiency (ranging from 20% to 40%) and to assess the potential need for preoperative prophylaxis.

Methods. In this retrospective observational study, we evaluated consecutive pediatric patients undergoing surgery between January 2017 and February 2020 at the "Regina Margherita Hospital, Città della Salute e della Scienza", Turin, Italy. A multivariate statistical analysis was conducted to assess whether there were variables capable of influencing the clinician's choice about the preference of a preoperative prophylaxis strategy used only in case of abnormal perioperative bleeding versus a wait-and-see approach with Factor VII available in the operating room. Data were considered statistically significant when they had a p-value < 0.05. The analysis was conducted starting from a cohort of 64 children undergoing surgery (adenoid and tonsil surgery 59.3%; urological surgery for 21.9%; general surgery 4.7%; neurosurgery 4.7%; heart surgery 1.6%; high airway surgery 3.2%; toracic surgery 1.6%; ortopedic surgery 3.2%), divided into two groups based on preoperative treatment: 41 children were not subjected to prophylaxis, with rVIIa factor available in the operating room to be used in case of abnormal bleeding, while 23 children underwent preventive treatment with rVIIa factor before surgery. All patients underwent the ISTH-BAT score evaluation (ISTH-BAT 0: 85.9%; 1: 7.8%; 2: 4.7%; 3: 1.6%).

Results. The group of patients who did not receive a prophylaxis, showed a higher tendency of bleeding (3/41: 7.3%), whereas in the groups of patients who received anti-haemorrhagic prophylaxis with rVIIa factor there were no bleeding episodes. Even if the bleeding is present only in the not-treated group, the difference between the two groups was not statistically significant (p= 0.29). Multivariate analysis revealed that preoperative dosages of Factor VII and hemoglobin (Hb) are two independent variables: patients subjected to preoperative treatment had a more significant Factor VII deficiency (30.9% ± 6.4) compared to patients not subjected to a prophylactic treatment (40.5% ± 6.5); this difference between the groups resulted to be statistically significant (p<0.0001). Moreover, patients subjected to prophylaxis had a lower Hb value than untreated patients, with a value of 12.1 +/- 1.3 gr/dl, which also resulted to be statistically significant (p<0.03).

Conclusions. Our study showed a high prevalence of perioperative bleeding (3/64: 4.7%), confirming the insidiousness of Factor VII deficiency. Both the approaches of keeping Factor VII available in the operating room in case of bleeding and the preventive treatment with rVIIa factor before surgery are effective and safe in children with mild Factor VII deficiency between 20% and 40%. Even if both the approaches can be considered valid, it is noteworthy that bleeding was observed only in the group of untreated patients. Our results, although not statistically significant due to the limited number of patients, seem to indicate that a prophylactic approach in patients with Factor VII value < 31% is preferable to a watchful waiting approach.

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Patients' characteristics		
	Pts not undergoing FVII prophylaxis (n=41)	**Pts undergoing FVII prophylaxis (n=23)**
Age range (years)	6.0 ± 3.5	5.7 ± 3.1
Gender (male/female)	26/15	16/7
Type of surgery, no (%): • adenoid and tonsil surgery • urological surgery • general surgery • neurosurgery • heart surgery • high airway surgery • toracic surgery • ortopedic surgery	 23 (56.1) 11 (26.8) 1 (2.4) 2 (4.9) 1 (2.4) 1 (2.4) 0 (0) 2 (4.9)	 15 (65.2) 3 (13) 2 (8.7) 1 (4.3) 0 (0) 1 (4.3) 1 (4.3) 0 (0)
ISTH-BAT, no (%): • 0 • 1 • 2 • 3	 37 (90.2) 3 (7.3) 1 (2.4) 0 (0)	 18 (78.3) 2 (8.7) 2 (8.7) 1 (4.3)
Perioperative bleeding, no (%)	3 (7.3)	0 (0)