

## Utjecaj trombocitopenije nakon transkateterske implantacije aortne valvule na kliničke ishode u ranom postintervencijskom razdoblju

### Impact of thrombocytopenia after transcatheter aortic valve implantation on short term clinical outcomes

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**Uvod.** Trombocitopenija (TP) nakon transkateterske implantacije aortne valvule (TAVI) je u ranijim studijama opisana, ali još nedovoljno istražena pojava. Cilj istraživanja je ispitati incidenciju i klinički značaj TP nakon TAVI.<sup>1-3</sup>

**Pacijenti i metode.** U studiju su uključena 42 bolesnika kojima je uspješno učinjena TAVI (37 CoreValve, 5 Edwards Sapien) u Kliničkom bolničkom centru Zagreb. Broj trombocita (Trc) i vrijednost hemoglobina (Hgb) su mjereni prije zahvata, 3-4 dana nakon TAVI te prije otpusta iz bolnice (1 tjedan nakon zahvata). Broj jedinica transfuzije i kliničke komplikacije su zabilježeni.

**Rezultati:** Prije zahvata, vrijednosti Hgb su bile prosječno 126 (93-161) g/l, a broj Trc 197 (101-369) × 10<sup>9</sup>/L. Tri do četiri dana nakon zahvata, zabilježen je značajan pad u vrijednosti Hgb (104 (86-142) g/l, p <0.001) i broju trombocita (167,5 (83-297) × 10<sup>9</sup>/L, p <0.001). U 12 (28,6%) bolesnika došlo je do razvoja umjerene/teške TP (Trc <100 × 10<sup>9</sup>/L). Nije bilo razlike u padu vrijednosti Hgb u ovoj grupi bolesnika u odnosu na one kod kojih nije došlo do razvoja značajne TP (non-TP). Transfuzija Trc nije bila indicirana u niti jednog bolesnika. U grupi bez značajne TP zabilježena su tri velika krvarenja, dok u grupi sa umjeronom/teškom TP (u/t TP) nije zabilježeno niti jedno veliko krvarenje. 11 jedinica koncentrata erotrocita (0,92 jedinice po bolesniku) primjenjena su u u/t TP grupi, dok je u non-TP skupini bolesnika primjenjeno ukupno 26 jedinica (0,87 jedinica po bolesniku). Nakon tjedan dana, vrijednosti Trc su se znatno oporavile (199 (66-333) × 10<sup>9</sup>/L, p=0,014) u svih bolesnika, dok su vrijednosti Hgb ostale i dalje značajno niže u odnosu na početne. Konačna vrijednost Trc nakon tjedan dana nije se znatno razlikovala od početne (p=0,989); osim u jednog bolesnika gdje se i nakon 7 dana pratila teža TP.

**Zaključak:** TP nakon TAVI je česta, samolimitirajuća pojava. Javlja se nakon 3-4 dana nakon TAVI sa potpunim oporavkom broja Trc tijekom prvog tjedna. Kratkoročno nema utjecaja na vrijednost Hgb, pojavu velikih krvarenja niti potrebu za transfuzijom krvnih pripravaka. Etiologija još uvijek ostaje nerazjašnjena.

**Background.** Thrombocytopenia (TP) after transcatheter aortic valve implantation (TAVI) has been observed, but not well studied. We aimed to investigate incidence and clinical significance of TP associated with TAVI.<sup>1-3</sup>

**Patients and Methods:** A total of 42 patients who underwent successful TAVI (37 CoreValve, 5 Edwards Sapien) in University Hospital Center Zagreb were enrolled. Platelet (PT) and hemoglobin (Hgb) count were analyzed before, on day 3-4 after TAVI and before discharge (about 1 week after the procedure). Transfusion units and clinical complications were recorded.

**Results:** Before the procedure, Hgb level was 126 (93-161) g/L, and platelet count 197 (101-369) × 10<sup>9</sup>/L. On day 3-4 after the procedure, significant drop of Hgb (104 (86-142) g/L, p <0.001) and PT (167,5 (83-297) × 10<sup>9</sup>/L, p <0.001) was observed with significant correlations between variables. In 12 (28.6%) pts, moderate/severe TP (PT<100 × 10<sup>9</sup>/L) occurred. In this group of pts, drop in Hgb levels showed no significant difference compared to those pts with no significant TP. None of the pts required PT transfusion. There were 3 major bleedings in non-TP group and none in TP group. 11 units of red blood cells (0.92 per patient) were used in TP group, and 26 units (0.87 per patient) in non-TP group. After one week, PT levels showed significant recovery toward normal values (199 (66-333) × 10<sup>9</sup>/L, p=0.014), while Hgb levels showed no significant recovery (105 (88-130) g/L, p=0.286) and remained significantly lower compared to baseline (p=0.001). PT count after one week showed no significant difference compared to preprocedural values (p=0.989); only in 1 patient PT count remained low after 1 week.

**Conclusion.** TP after TAVI is common, self-limited process. It occurs 3-4 days after TAVI with complete recovery of PT count during 1 week. In the short term follow up, it has no impact on Hgb level, incidence of major bleeding nor need for transfusion. Etiology of this phenomenon remains unresolved.

#### LITERATURE

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