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Background: Closure device has been widely used to facilitate early ambulation after trans femoral intervention (TFI). We have already reported that use of 6Fr Angio-seal Evolution for 7Fr-TFI resulted in similar preventive efficacy of hemorrhagic complication with the STS-PLUS. However, use of Angio-seal had some problems, which were significant learning curve, remaining foreign body in the vessel and late bleeding. To resolve these problems related to Angio-seal, we have introduced the HemCon patch since Feb./2012. **Purpose:** In this study, we investigated the efficacy and safety of HemCon patch, comparing with 6Fr Angio-seal Evolution for 7Fr-TFI. **Methods and Results:** Patients undergoing 7Fr-TFI were 1:1 randomized for HemCon patch with 6Fr Angio-seal Evolution for 7Fr-TFI. Before the procedure, we controlled the ACT (<180 seconds) and the systolic blood pressure (<180 mmHg). Each 50 patients in the HemCon patch group and the 6Fr Angio-seal Evolution group were recruited. Time to hemostasis, duration of bed rest, incidence of early and late bleeding and new onset ischemia of the ipsilateral lower extremity were compared between two groups. ACT before the procedure was similar, 220.0±65.7 and 233.6±66.3 seconds in each groups, respectively (p=n.s.). Time to hemostasis was 13.1±11.7 minutes in the HemCon patch group. Duration of bed rest was 4.5±1.3 and 4.6±3.7 hours in each groups, respectively (p=n.s.). Late bleeding developed in 0% and 2.0% of patients in each groups, respectively (p=n.s.). There were no arterial occlusion in both groups. **Conclusion:** Use of HemCon patch for 7Fr-TFI resulted in similar preventive efficacy of hemorrhagic complication with 6Fr Angio-seal Evolution without learning curve.