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Purpose: The third-generation drug-eluting stents (DES), i.e., bioresorbable polymer sirolimus-eluting stents (BP-SES) and bioresorbable polymer everolimus-eluting stents (BP-EES), have superior crossability and conformability due to improved stent design. However, it is a possible cause of entrapment of intravascular ultrasound (IVUS) after stents implantation. The purpose of this study is to assess the difference in the incidence of entrapment of IVUS between second- and third-generation DES.

Method: Consecutive all patients who implanted of Promus PREMIER everolimus-eluting stents (PP-EES, between May 2014 and January 2016) and BP-EES (between January 2016 and June 2016) by using IVUS in coronary artery lesions were enrolled.

Result: During these periods, PP-EES was implanted in 329 total patients and BP-EES was implanted in 131 total patients. The incidence of entrapment of IVUS after stents implantation was higher in BP-EES than in PP-EES (2.3% vs. 0.0%, $p=0.02$). All entrapped IVUSs ($n=3$) were successfully removed percutaneously.

Conclusion: Entrapment of IVUS was more frequently occurred in BP-EES than PP-EES.