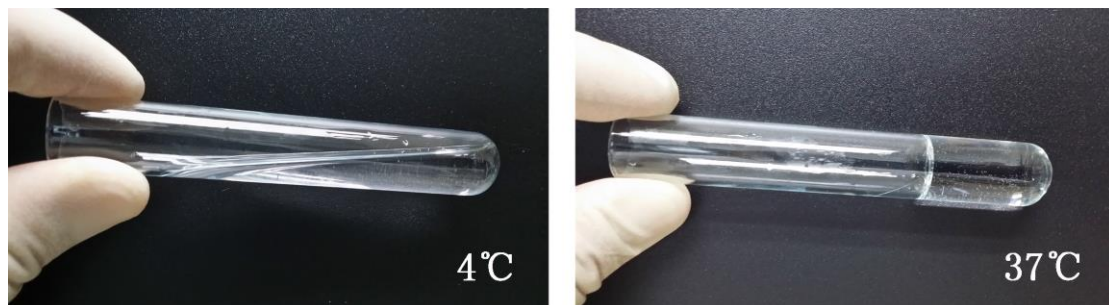


## Appendix E-1

TABLE E-1 Random Distribution of Lumbar Vertebrae for Intraosseous Injection with Simvastatin in Poloxamer 407 Hydrogel

	Group		
I.D.	Simvastatin 0 mg	Simvastatin 0.5 mg	Simvastatin 1 mg
1	L4	L5	L6
2	L4	L6	L5
3	L6	L4	L5
4	L4	L5	L6
5	L5	L4	L6
6	L4	L5	L6
7	L6	L4	L5
8	L6	L5	L4
9	L5	L6	L4

Fig. E-1



Photograph showing the “sol-gel” characteristics of simvastatin in thermosensitive poloxamer 407 hydrogel in response to temperature. At a low temperature (4°C), the simvastatin in poloxamer 407 hydrogel is liquid, but at body temperature (37°C), it quickly changes to a gel.

Fig. E-2

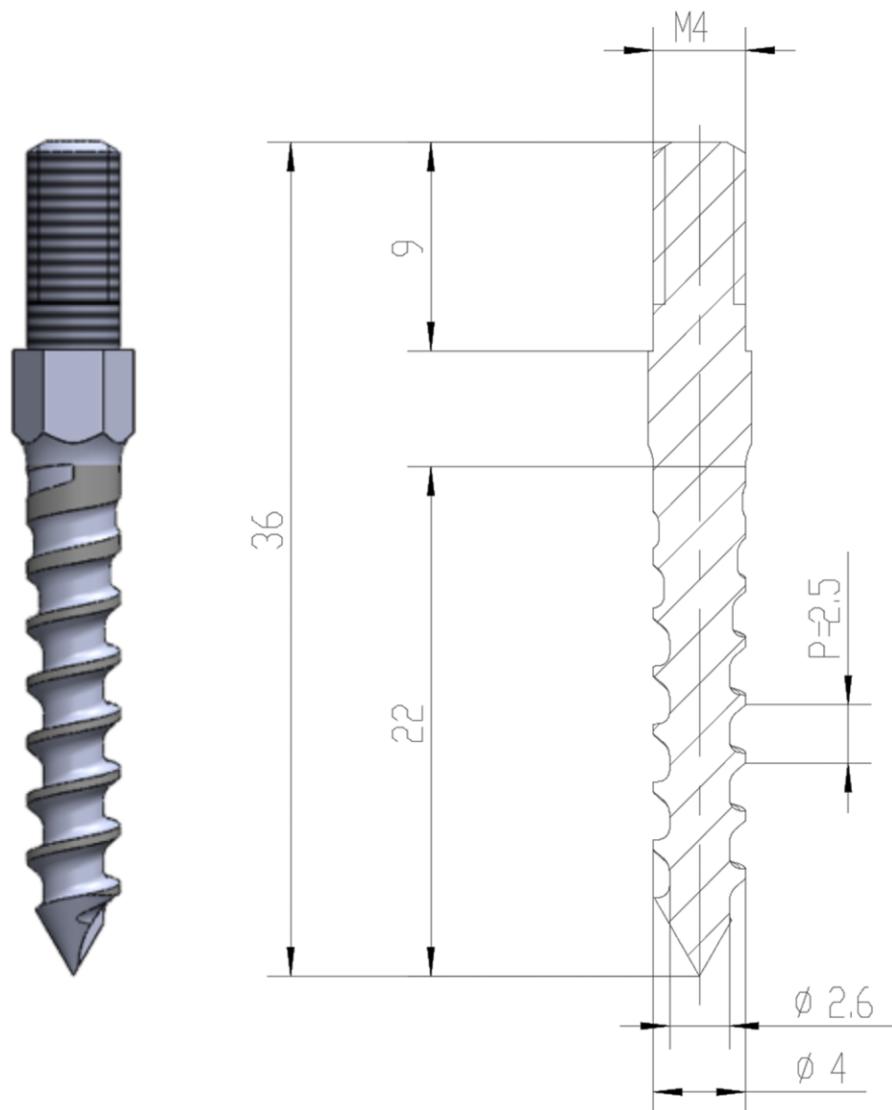


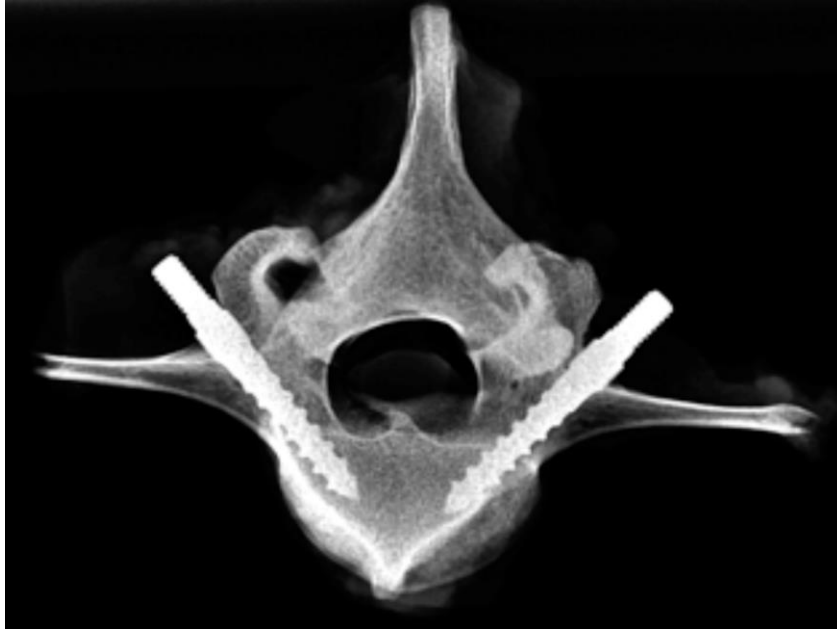
Diagram of the titanium alloy pedicle screw used in the study. The total length was 36 mm, and the screw length was 22 mm. The thread diameter was 4.0 mm, the core diameter was 2.6 mm, and the thread pitch was 2.5 mm. The rear connections were made according to a national standard for thread pitch (4 mm) and for length (9 mm) to simplify the biomechanical pull-out test.

Fig. E-3



Photographs of the experimental setup used for biomechanical pull-out testing of the pedicle screws. The vertebra with the pedicle-screw implant was placed in a purpose-designed fixture (**Fig. E-3A**) to ensure vertical pull-out alignment. Screws in the fixture passing in different directions fixed the vertebra. The tail of the pedicle screw was fixed and connected with the cylindrical rod, which was then attached to the testing machine axis, which, in turn, was oriented along the screw axis (**Fig. E-3B**).

Fig. E-4



Axial radiograph demonstrating intrapedicular screw placement.