RGD-dendritic structures on titanium alloy. Influence in the relationship between bone cells and the metal surface

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Prosthetic implants are used in surgical procedures to replace a joint (hip or knee) allowing the functional recovery of the patient. Prostheses are usually made of titanium alloys. However, the lack of chemical and structural bond between the metal and the surrounding bone tissue causes a fail in the long term due to poor osseointegration. Titanium surface with RGD domains would positively influence the relationship between bone cells and the metal surface of the prostheses, thus promoting a better osseointegration [1]. Arginine-glycine-aspartic acid tripeptides (RGD) were conjugated to dendritic structures and used to pre-treat titanium disk. We demonstrate that dendrimer-presented tripeptides efficiently improves cell-material interaction.

References

[1] Hersel, U.; Dahmen C.; Kessler, H. *Biomaterials* **2003**, *24*, 4385-4415.