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Osteogenic potential of ALLOB® combined with bioceramics in spinal fusion

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Bone Therapeutics develops innovative osteoblastic cell therapy products for the treatment of orthopedic and spinal conditions. The company is currently evaluating its human allogeneic osteoblastic cell therapy product, ALLOB®, in spinal fusion. Although spinal fusion is routine procedure, non-union and persisting pain is still frequent irrespective of the procedure and bone graft used. The local implantation of osteoblastic cells (such as ALLOB®) in combination with bioceramics granules is expected to provide the necessary osteogenic, osteoinductive and osteoconductive properties for the enhancement of bone formation and fusion. Preclinical studies with ALLOB® have shown excellent safety and efficacy results. For example, in a mouse model of osteotomy, combining granules with ALLOB® significantly accelerates and increases the bone formation and fusion rates as compared to granules alone (fusion was observed in 40% vs. 17% at 4 weeks and in 60% vs. 0% at 8 weeks for the animals treated with ALLOB®/bioceramics and with bioceramics alone respectively). Bone Therapeutics has initiated a proof-of-concept Phase IIA open-label study to assess the safety and efficacy of ALLOB® in patients requiring spinal fusion procedures. Sixteen patients with symptomatic lumbar disc disease will be treated with a single dose of ALLOB® combined with β-TCP granules to promote bone formation and fusion of the vertebral bodies. The ALLOB®-treated patients will be evaluated over a 12-month period using both clinical and radiological parameters. To date, the first two patient cohorts have been treated without any complications or safety issues.

Biography

Sandra Pietri has authored and co-authored scientific papers and completed her PhD in Pharmaceutical and Biomedical Sciences at the Université Libre de Bruxelles (ULB, Belgium) in 2010. She serves as Preclinical Manager of Bone Therapeutics SA, an advanced biotechnology company with a unique approach to the development of cell therapy products for bone fracture repair and fracture prevention. She has started her career at Bone Therapeutics in 2011 where she was a Supervisor of the in vivo preclinical department. She has acquired a broad experience in bone and cartilage scientific knowledge, in vivo disease model development and stem/stromal cell differentiation.

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