

Stem cell 'living bandage' heals knee injuries

Sarah-Kate Templeton, Health Editor

Scientists have grown a "living bandage" from a patient's own stem cells to heal a common sporting knee injury.

Every year about 80,000 men and women in Britain suffer tears to the meniscal cartilage, which acts as a shock absorbing cushion between the bones of the upper and lower leg.

Many are men and women in their twenties and thirties and the tears are frequently the result of twisting the leg during jogging, football, rugby, horse riding or skiing.

The footballers Martin Petrov, a winger for Manchester City, and John Kennedy, the Celtic and Scotland player, have reportedly got the injury.

At the moment attempts to sew together ripped meniscal cartilage are often unsuccessful and can result in players spending a long time off the pitch undergoing rehabilitation.

Many sportsmen opt to have the tissue removed. Removal of the loose cartilage allows the athletes to recover but it leaves bones in the knees exposed and osteoarthritis may develop.

Scientists at Bristol University have now managed to heal cartilage tissue in a laboratory with stem cells taken from a patient's own bone marrow. They used the cells to coat a sponge-like scaffold, made from collagen (a fibrous protein) and placed it inside the tear in the cartilage. The stem cells pulled the two pieces of torn cartilage together.

The team, led by Anthony Hollander, professor of rheumatology and tissue engineering, will now test out the treatment on their first patients.

Hollander said: "The stem cells knit across the two sides of the lesion and cause a reuniting of the two sides. We hope that in the patient we can reunite the cartilage in a strong enough way to heal the wound completely."

Jonathan Webb, a rugby full-back who played 33 times for England, became a victim of a meniscal cartilage injury in 1989.

Webb, 45, who became an orthopaedic surgeon specialising in sports injuries after retiring from professional rugby, had cartilage removed but still needs repeated surgery on his knee.

He said the stem cell breakthrough "offers the opportunity to rebuild the meniscal cartilage if it cannot be repaired. It may be that the professional sportsmen, who have the most to lose, will drive the technology forward".

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