

Surgeon offers pointers on amniotic membrane grafting

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in Las Vegas

AMNIOTIC membrane grafting can be an effective part of surgery to remove a conjunctival tumour, according to David W Lamberts MD.

Several years ago, Dr Lamberts used an amniotic membrane graft for the first time in the treatment of an enormous conjunctival tumour. He shared his experience with the graft at the annual AAO meeting

Dr Lamberts first saw the patient, who had been diagnosed with chronic conjunctivitis, in the summer of 2003. He had been referred to Dr Lamberts for a second opinion because the condition had not cleared up with antibiotics.

Dr Lamberts diagnosed the man with conjunctival intraepithelial neoplasia and put him on mitomycin, which had no effect.

By December, the tumour extended all the way from below the lower lid to the superior conjunctiva, covering the area from 6 o'clock to 3 o'clock, and had invaded the cornea and fornix. "It was the biggest conjunctival tumour I had ever seen, up until then and since. The patient also suffered from keratin plaques, probably from chronic inflammation, and painful filamentary keratitis."

At that point, Dr Lamberts realised that it was time to "bite the bullet" and excise

the tumour.

He began by resecting the entire tumour, from 6 o'clock to 3 o'clock. He made a point of taking a wide margin, extending the incision into the fornix by an extra 1.0 to 2.0 mm beyond the tumour. He also performed a superficial keratectomy. "It appeared that the tumour had crossed the limbus and invaded the cornea, so I removed the cornea using a technique identical to that used to remove a pterygium," he said.

He also used a cryoprobe to freeze off a layer of cells from the scleral bed, and "hopefully kill off any remaining cancerous cells."

He then covered the defect using a piece of AmbioDry dehydrated human amniotic membrane allograft (Oktos Surgical Corporation). He selected the largest size, which measures 4x4cm and costs US\$655 (the smallest size is 1x2cm and costs US\$425). Finally, he added a bandage contact lens to help reduce pain from the sutures and prevent the graft from shifting.

Two weeks after the surgery, Dr Lamberts said he was struck by the lack of inflammation in the eye.

Dr Lamberts said that when he last saw the patient in mid-2006, he was doing well and seemed to be tumour-free.

Dr Lamberts said that the amniotic membrane graft is easy to store because it's dehydrated and can be kept at room temperature.

He said that it should be trimmed to size in its dry state, applied to the surgical site, and then wetted with saline. When it becomes wet, it's like soggy tissue paper, he said. This property makes it difficult to cut or move when wet, but provides the advantage of helping it stay put after it's put in place.

Dr Lamberts said that the best way to shape the graft is to cut a template out of a piece of paper, and lay the template over the graft for cutting under a microscope. A second person should hold the graft down. It's much easier than trying to cut the graft freehand, he said.

One of the features of AmbioDry is a grid pattern that ostensibly allows the user to differentiate between the basement membrane and stromal surfaces, but Dr Lamberts said he doesn't find that useful. "Both sides look the same to me, like flipping over a waffle," he said.

Instead, he recommended relying on the packaging to differentiate between the sides. The stromal side, which generally faces the cornea, sits against the shiny metallic packaging; the basement side, which generally faces away from the cornea, is covered in a clear plastic layer. By cutting the graft while it's still in the packaging, the surgeon can ensure that the stromal side remains down.

He also recommended removing blood and debris from the eye before placing the graft, in order to allow the graft to stick

properly. Finally, he said that he makes a point of suturing the membrane under the edge of the conjunctiva, the idea being that this might give the patient's conjunctival epithelium a better chance of growing over the surface of the eye.

William H Ehlers MD, who co-chaired the session on healing of the ocular surface, told *EuroTimes* that he agreed with Dr Lambert's approach to amniotic membrane grafting.

Dr Ehlers is director of refractive surgery with the division of ophthalmology at the University of Connecticut Health Center in Farmington.

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