



DigiCare® Monograph Series

Beware the Septic Keratosis Obturans: Stealth Public Health Threat

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Once rare in the population, **keratosis obturans** are surprisingly common in the population today (see **Fig. 1** on next page). Healthy bodies exhibit an outer layer of tissue in the external auditory canal (EAC) called the *corneum stratum*, which is a thick and slowly moving keratin layer growing outward from the umbo of the ear drum at the rate of about 1mm per day. It carries with it dead skin tissues, debris, bacteria, fungi, and earwax. This is the self-cleaning mechanism of human ears or, historically, humans would be a deaf species indeed.

When a drop in cellular pH exceeds the body's ability to maintain healthy levels—as a result of poor diet, dehydration, environmental toxicities, and/or untreated sepsis of the jaw or teeth, upper respiratory distress, intestinal infections, or from infected implanted prostheses—the EAC keratin layer begins to peel up from the epithelial layers below and wraps around itself over and over, trapping inside it a milieu of collected bacteria and dead cells over the course of months and years. In many cases today it becomes dangerously septic (see **Fig. 2** on page 2 to see what is often inside the obturans). This is the ear's equivalent of an ingrown toenail.

The growing bacteria inside begins a cascade of **proinflammatory cytokines**, causing general inflammation, increased allergy, headache, and general discomfort. Over time, the milieu grows until it has formed one, two, three, even four or more of these masses, leading in its final stages to vascularization of the obturans itself. At that point the body can go into septic shock not unlike an appendicitis or abscessed tooth at about year five or six of the obturans' growth. Following is a pictorial explanation of what is nearly always mistaken as impacted earwax. In reality it can be a **septic keratosis obturans**:



Months 3-6—The keratin begins to insidiously peel away from the underlying skin when cellular pH of body falls into acidosis state. Then, it begins trapping desquamated skin cells, debris, bacteria, fungi, yeasts, pseudomonas, etc., eventually becoming septic, but remaining insulated from one's vascular system. This formation usually stems from onset of diabetes type 2, tooth/jaw sepsis, or chronic upper respiratory infection. It is not a self-initiating phenomena.



By Year 5—Now, it has grown into three, four or more obturans in succession. Unresolved, they can grow into *External Ear Cholesteatomas*, drawing bone fragments from the mastoid bone around it, eventually hollowing out a large cavity out of the EAC. If the mass vascularizes, and septicemia reaches the blood system, lab tests will indicate an acute diverticulitis-like septicemia. **Immediate gentle removal is required.** (Note: Often an advanced Obturans presents with a cerumen veneer, masking its serious nature to the observer. In the case at left, the individual did not complain of occlusion until a softening solution was applied).



After Removal of the Ceruminous Veneer—When the outer debris and earwax veneer are removed by mild syringing of warm antiseptic water, revealed is the first of several keratosis obturans. There one finds a series of membranous accumulations filled with trapped debris and growing bacteria. In the case illustrated here, there were four of these in succession, each one difficult to remove without first softening with MiraCell® Botanical Solution. They were already causing pro-inflammatory cytokine response elsewhere in the body and were interacting with sepsis in the teeth and jaw.



Obturans Removed—A normal eardrum is revealed when the final obturans is removed. An investigation of the removed objects will reveal the kinds of serious bacteria and fungi listed in a slide on the next page. **Upon removal, a prescription by one's physician may be needed for Neomycin/Hydrocortisone or Augmentin/Hydrocortisone Ear Drops (applied 3-4 times daily for 7-10 days) followed by a two week course of MiraCell® botanical solution, used daily.** In all cases, the cause(s) of the obturans need to found and treated. (See next page)

Since the introduction of video otoscopy in 1992, public health trends have changed dramatically

- **Chronic disease** in every category has skyrocketed in the general population (Polypharmacy, DMII, Cancer, CVD & Neuropathies)
- As **cellular pH** has dropped in the population in recent years, **fungi, yeasts & pseudomonas**, once rare, are now common
- Incidence of **absent EAC keratin** has skyrocketed, making **EAC mechanoreceptors** overly sensitive to earmolds & hearings aids
- **Impacted cerumen** has given way to **keratosis obturans**; untended cases progress to **external ear cholesteatoma**
- **Tympanosclerosis** and other **sclerotic plaques** (due to acidosis) have proliferated approximately 5-fold in the general population

Fig. 1

Potentially dangerous microorganisms common to the external meatus

Bacteria/Fungi	Oto Culture	Complications
Acinetobacter Iwoffii	Long developing keratosis obturans	Sepsis; pneumonia; respiratory infections
Enterobacter Cloacae	Untreated injury, infection (pseudomonas)	Sepsis, pneumonia, infection
Pseudomonas aeruginosa/anaerobic	Chronic EO, EM Irritation, pH<6.5	OE, Septicemia, pneumonia, EAC cholesteatoma
S. aureus	Non-sterile earmolds, objects	Internal abscesses, carbuncles, boils
Aspergillus Favus	-pH EM, hypernatremia, DM II (dermatitis response)	Hypersensitive pneumonitis, other systemic disease
Candida Parapsilosis	-pH EM, renal disease, thrush, DMII, gout	Candidiasis, keratosis, Mucosal disease

Fig. 2

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Standard Procedure for Using MiraCell™'s ProEAR™ Botanical Solution in the Ear...

- Tilt the head sideways & pour a generous amount of ProEAR™ solution into the ear (enough to cover the ear drum, evoking a shiver).
- Place wad of tissue at the entrance of the canal and leave for at least 10-15 minutes
- Do the same to opposite ear
- Repeat procedure daily for 2-4 weeks & once weekly thereafter.



Fig. 3

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What sets off a keratosis obturans?

As mentioned earlier, a drop in the body's cellular pH into acidosis state can cause the keratin tissue to peel up from underlying tissues in the ear canal. Today, about 120 million Americans are pre-diabetics (pH >7.0) and full-blown diabetics mellitus type 2 (pH 6.9). Our research screening find keratosis obturans in up about 25-35% in such individuals. It usually correlates with several other conditions, particularly as tooth sepsis, long-term acid reflux and use of acid reflux medications, hypertension, gout, high triglycerides, IBS, and rheumatoid and osteoarthritis.

Keratoses are often closely aligned to the head and neck region relative to infections in the teeth and jaw. Sepsis of the jaw appears to immunologically interact with sepsis of keratosis in the ears. Other causes that bring keratosis are:

- ◆ A serious bout of acute pneumonia, esp. fungal type, or other serious infection. Ingrown toenail and diverticulitis may also interact.
- ◆ Septic debris developing in or around implanted prostheses, such as artificial joints, shoulders, hips, knees, feet, or implants in the back.
- ◆ Trauma, accident, emotional distress, or toxic exposure. "Cotton Swab Trauma" or embedment of foreign object have been implicated.
- ◆ Certain medications, especially those that suppress immune system or affect the liver, epithelium, or blood vessel integrity.
- ◆ Toxic effects of tobacco, alcohol, heavy metals, or drug use.

How does one avoid relapse?

Every case is different and are advised to consult with their physician on what may be best for them. However, here are some general guidelines to start the discussion:

- ◆ Change diet & nutrition to conform to the SIRCLE® Program, which helps one raise their cellular pH to 7.35-7.45, and addresses unhealed injuries and stressors that contribute negatively to one's health.
- ◆ Have teeth and jaw carefully examined by an oral surgeon who is intimately familiar with hidden crown/filling/root canal problems that can harbor septicemia.
- ◆ Be examined by an otologist who is knowledgeable in current trends in pseudomonas and keratosis obturans.
- ◆ If you have an implanted prosthesis, ask your physician about setting up a prophylactic to assure sepsis does not develop again. In most cases, Augmentin 250mg or 500mg taken 3 times per day for two or three days every 3 or 6 months has been advised. (Rarely Ciprofloxacin)
- ◆ To maintain EAC health use MiraCell on a regular basis as shown in Fig. 3 to the left.

References for Further Study

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