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LETTER TO THE EDITOR

The use of chromophore gel-assisted blue light phototherapy (Lumiheal) for the treatment of surgical site infections in breast surgery

Dear Editor,

We would like to share our experience using the same device in the management of surgical site infections in breast surgery. A 39 years old patient came to our attention, affected by a left breast cancer which came out in a situation of gigantomasty. The patient underwent, prior to surgery, a neoadjuvant chemotherapy for tumor mass reduction, therefore in the operatory theater we performed a left lumpectomy with complete axillary dissection (due to lymph nodes involvement), in connection with a right reduction mammoplasty for symmetrization purposes.

In the 10th postoperative day, an ample infection of both the surgical wounds came out, with an abundant secretion. An immediate treatment with Amoxicillin/Clavulanate per os (1 g three times per day) was set up together with a wound site biopsy for bacterial detection. Nine days later the biopsy response was a MRSA infection, which led to a Trimethoprim/Sulfamethoxazole per os therapy (160 + 800 mg two times per day). The patient began a series of wound medications based on Hydrofibers (Aquacell Ag, Convatec Ltd, Greensboro, NC, USA) as a first, then on Polyurethane foam (Mepliex Ag, Mölnlycke Health care, Goteborg, Sweden) and in the end on negative pressure (PICO, Smith & Nephew, London, UK). 18 medication sessions were performed in 2 months without any perceivable results and with a progressively increasing pain in the affected site. At the end of this period a new surgical site biopsy was done, showing the persistence of the MRSA infection. The whole cost of the disposable medications was about $1000.

Considering the unsatisfactory results of traditional medications, we began a therapy with Lumiheal (Klox Ltd, Laval, Quebec, Canada), with a 5 minutes blue light exposure twice in every session, two times a week. Eleven Lumiheal applications were performed, with a complete wound healing and a satisfactory aesthetic result.

The Lumiheal therapy resulted well tolerated with no complications and, beginning from the second session, helped to progressively reduce local pain as well. Thanks to this medication, the patient was able to undergo a programmed postoperative radiotherapy 3 months after surgery, this means into the range of its maximum efficacy. The patient underwent also adjuvant chemotherapy, with no particular effects over scars or signs of infection relapse.

At the present time the patient shows a complete healing with no signs of cancer relapse.

Considering the particular efficacy of chromophore phototherapy in controlling wound infections and stimulate neoangiogenesis, we consider Lumiheal as a useful tool in surgical site infection management, and we use it as a second-line therapy in any kind of lesions resisting to the standard one. Further clinical randomized trials are needed to better evaluate this clinical approach, but our preliminary results using Lumiheal seem very promising in treating surgical infections.

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