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Letter to the Editor

Cutaneous Syringoma: the Status of Hormonal Receptors

Angel Fernandez-Flores

The Service of Anatomic Pathology, Hospital El Bierzo, and the Service of Cellular Pathology, Clinica Ponferrada, Ponferrada, Spain.

To the Editor:

We read with great interest the report by Lee et al. on syringomas,[1] and paid special attention to the immunohistochemical results obtained by the authors. All of the 56 cases that were studied for the expression of estrogen receptors (ER) or progesterone receptors (PR) were negative.

As the authors admit, there are several previous reports in literature which corroborate the expression by syringoma of progesterone receptors.[2-4] On the other hand, negativity has also previously been obtained in shorter series of syringomas,[5-7] and even ourselves have seen negativity in an eruptive variant of syringoma that we reported.[8]

We wonder whether these apparently contradictory results might have something to do with the antigen-retrieval method used in each case. For instance,[2] some authors have demonstrated the expression of ER and PR in syringoma, after retrieval with microwave for 10 minutes at 750 W with 10 mol/L citrate buffer at pH6, and most others teams used a wattage of around 800 W, when immunostaining for hormonal receptors.[9]

In the study by Lee et al., we regrettably failed to find the specification about the heating time of the samples or the wattage they used. Neither did they mention, if they used any controls.

When several procedures for antigen retrieval have been compared in regard with the detection of hormonal receptors, pressure-cooking has proved to give the best results, and it is recommended for the standardization of examination of ER.[10] In one study, 58% of laboratories that failed to assess immunohistochemistry for ER and PR, used microwave for antigen retrieval (compared to only 25% that failed by using the pressure cooker).[9] Moreover, a short heating time was recognized as the main factor for poor immunohistochemical detection of ER and PR, in laboratories where microwave oven was used as an antigen-retrieval method.[9] When extension of the heating time was introduced (up to total 25 minutes),[9,11] significant improvement was achieved in the immunostaining for hormonal receptors, regardless of other variables in the study. Rhodes 2001 furthermore, it must be said that an increase of the heating time also improves those stains that are weak.[9] Again, it would be interesting to know if the authors categorized any of their cases as negative, because of the extremely weak immunostaining for hormonal receptors. Those would be the cases where their staining could be improved by changing the retrieval conditions.

We recently had an opportunity to check the evidence of ER and PR in four cases of syringomas, using the Dako REAL EnVision detection system, peroxidase/DAB+, rabbit/mouse as well as the pressure-cooking as an antigen-retrieval tool, at pH 9 for 2 minutes and 30 seconds. Endogen peroxidase was blocked with DakoCytomation peroxidase-blocking reagent (code S2021). We used the wash buffer DakoCytomation (code 53006) and progesterone receptor (Dakocytomation Clone PgR 636, Code N1630).

We used primary antibodies for Estrogen receptor (Dakocytomation, monoclonal mouse

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Reprint address: requests to Dr. Angel Fernandez-Flores, The Service of Anatomic Pathology, Hospital El Bierzo, and the Service of Cellular Pathology, Clinica Ponferrada, S. Patología Celular, Clinica Ponferrada, Avenida Galicia 1, 24400 Ponferrada, Spain. Tel: (0034) 987 423732, Fax: (0034) 987 429102, E-mail: gpyau flowerlion@terra.es

antihuman, clone 1D5, code M7047) and progesterone receptor (Dakocytomation Clone PgR 636, Code N1630).

Case 1 was a syringoma of the forehead in a 31-year-old female patient. Case 2 was a syringoma of the nose in a 44 year-old woman. Case 3 was a syringoma of the face in a 51 year-old-female patient. Case 4 presented as multiple papules in the thorax of a 13-year-old male with hypochondroplasia. None of the cases showed any expression of either ER or PR.

Our results seem to support the findings of Lee at al., even when a pressure cooker was used as a retrieval tool, and our series is much shorter than theirs.

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Author Reply

To the Editor,

I read the comments by Dr. Fernandez-Flores with an interest and thank her for the interest in my article entitled "Syringoma: a clinicopathologic and immunohistologic study and results of treatment".[1]

I fully agree with Dr. Fernandez-Flores's comments about the methods of antigen retrieval. In our case, we first preheated the pressure-cooker for 5 minutes and then heated the tissue section for 10 minute at 1,700W with citrate buffer at pH 6. For the categorization of staining results, we would have categorized the staining "as weak positive", if there were weak staining in the specimens. However, all 56 cases were totally negative.

As Dr. Fernandez-Flores correctly stated, I agree that the results of expression of estrogen receptors (ER) or progesterone receptors (PR) are variable depending on the methods of antigen-retrieval used. Therefore, a control staining should be done beforehand. Also, we have experienced in other tissues that better results are obtained with longer incubation time at room temperature with monoclonal antibody against ER and PR.

And other possible cause of negativity of hormonal receptors can be inadequate fixation technique. Even in breast cancer, despite adequate antigen retrieval, inadequate fixation could cause false-negative results.[2]

As I mentioned in the previous article, there are several reports that proved the expression of ER and PR in syringoma.[3-5] I also wanted to compare the results according to the antigen retrieval methods, however, almost all the reported cases regrettably failed to describe their antigen-retrieval methods in the articles. Further comparison of the methods seems to be needed to confirm the ER, PR expression in syringoma. With further development in the methods of antigen

retrieval, different results may come out.

Dr. Ju Hee Lee and Kwang Hoon Lee

Department of Dermatology, Yonsei University College of Medicine, 250 Seongsanno, Seodaemun-gu, Seoul 120-752, Korea. Tel: 82-2-2228-2080, Fax: 82-2-393-9157, E-mail: kwanglee@yuhs.ac

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