Cutaneous Syringoma: the Status of Hormonal Receptors

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To the Editor:

We read with great interest the report by Lee et al. on syringomas, 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. On the other hand, negativity has also previously been obtained in shorter series of syringomas, and even ourselves have seen negativity in an eruptive variant of syringoma that we reported.

We wonder whether these apparently contradictory results might have something to do with the antigen-retrieval method used in each case. For instance, 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 pH 6, and most others teams used a wattage of around 800 W, when immunostaining for hormonal receptors.

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. 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). 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. When extension of the heating time was introduced (up to total 25 minutes), 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. 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...
antihuman, clone 1D5, code M7047) and pro-
gesterone 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 hypochond-
droplasia. None of the cases showed any expres-
sion 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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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 com-
ments 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 compari-
on 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.

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