**P16^{INK4A} EXPRESSION AS DIFFERENTIATION MARKER IN BENIGN AND MALIGNANT MELANOCYTIC LESIONS AND FISH ANALYSIS**

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Background...

Malignant melanoma incidence is increasing by 4% every year all over the world. Different DNA aberrations have been reported in 95% of skin melanomas and represent a marker to distinguish benign melanocytic nevi from melanomas. The FISH-based test is considered the gold standard for assisting the diagnosis of melanocytic lesions of uncertain potential, with 87% sensitivity and 95% specificity.
...Background

Scientific data shows that the loss of p16\textsuperscript{INK4a} expression could be significantly correlated with the degree of malignancy, with the progression from nevus to melanoma.

Aim fo the Study

- To analyze the impact of FISH and IHC in a small series of skin samples, in order to evaluate the behavior in dysplastic melanocytic lesions.
Methods

Twenty skin samples:

- 4 melanocytic nevi
- 9 dysplastic nevi
- 7 melanomas in situ

were assessed with fluorescence in situ hybridization (FISH) test, targeting 6p25 (RREB1), 6q23 (MYB), centromere 6 (Cep6), and 11q13 (CCND1), and with p16INK4a immunohistochemistry reaction.
**Results**

Our data show that 4/4 melanocytic nevi, used as a negative control, were p16 INK4a (+) and FISH(-). Most dysplastic lesions 6/9) were p16INK4a(+) and FISH(-), 2/9 were p16INK4a(+) and FISH(+) and only 1/9 was p16INK4a(-) and FISH(+).

Regarding melanomas in situ, used as positive control, 4/7 were p16INK4a(+) and FISH(+), 2/7 were p16INK4a(-) and FISH(+) and only one was p16INK4a(+) but it was not valuable for FISH analysis.
# Results

<table>
<thead>
<tr>
<th>Isto logical Diagnosis</th>
<th>P16+/ FISH+</th>
<th>P16-/ FISH+</th>
<th>P16+/ FISH-</th>
<th>P16-/ FISH-</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melanocitic lesion</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Displastic nevus</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>Melanoma in situ</td>
<td>4</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>6*</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>19</td>
</tr>
</tbody>
</table>

* One case diagnosed as Melanoma in situ, was p16INK4a(+) but it was not valuable for FISH analysis.
Melanoma with $p16^{INK4a}(+) \text{ and } p16^{INK4a}(-)$ area
Melanoma with $p16^{\text{INK4a}(+)}$ area
Melanoma with FISH (+) area

CCND1- MYB>=2.5

100X

National Cancer Centre of Bari
Italy
Melanoma with FISH (-) area
Conclusion

Our data revealed:

- an immunophenotypic pattern p16INK4a(+)/FISH(-) in melanocytic nevi
- a prevalent pattern immunophenotypic p16INK4a(+)/FISH(-) (to note that 33% were FISH+) in dysplastic lesions
- a prevalent immunophenotypic pattern p16INK4a(+)/FISH(+) in melanomas in situ.