

Glycosphingolipid expression in squamous cell carcinoma of the upper aerodigestive tract

Marcilio Ferreira Marques Filho • Fernando Walder
 • Helio K. Takahashi • Luciana L. Guimarães • Ameria K. Tanaka • Onivaldo Cervantes • Anita H. Straus

Correction of image subtitles

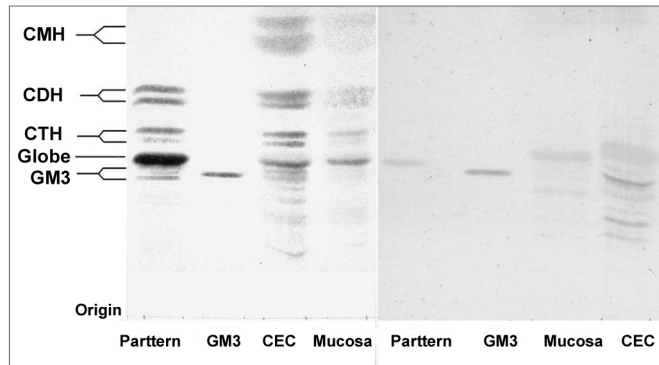


Figure 1. HPTLC slide dyed by orcinol/H₂SO₄. (left) and (right) HPTLC dyed by resorcinol. Pattern – Erythrocyte GLS pattern. GM3 pattern (Sigma®). SCC - GSLs of SCC. Mucosa - GSLs of normal mucosa.

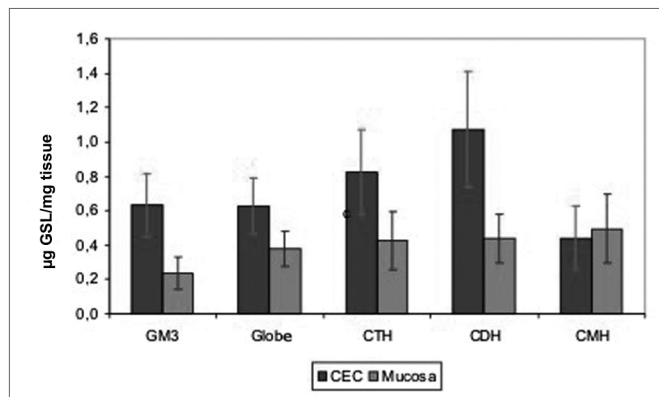


Chart 1. GSL quantity average in SCC and in the mucosa of the upper aerodigestive tract

Table . Relation between the means of total GSL quantities compared to the normal mucosa of the upper aerodigestive tract.

Statistics	SCC µg GSL/mg Tissue	Mucosa µg GSL/mg Tissue	t test (p)
Mean	3,57	1,92	
Standard deviation	2,35	1,54	0,001 *
n	33	33	

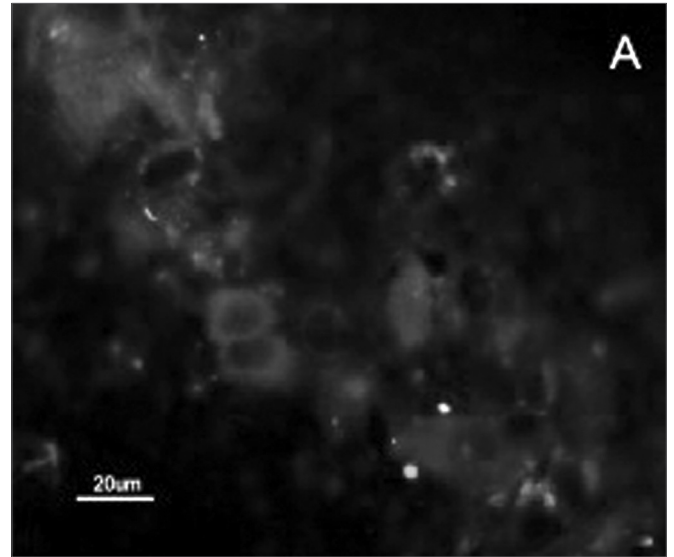


Figura 2a.

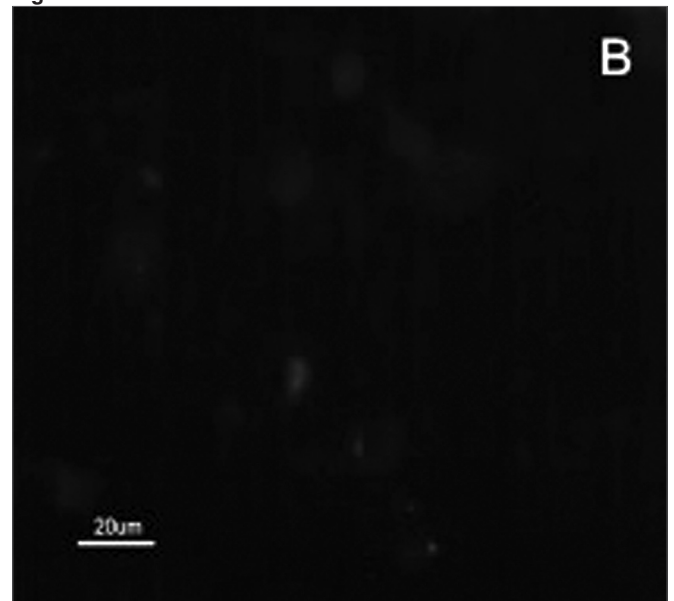


Figura 2b.

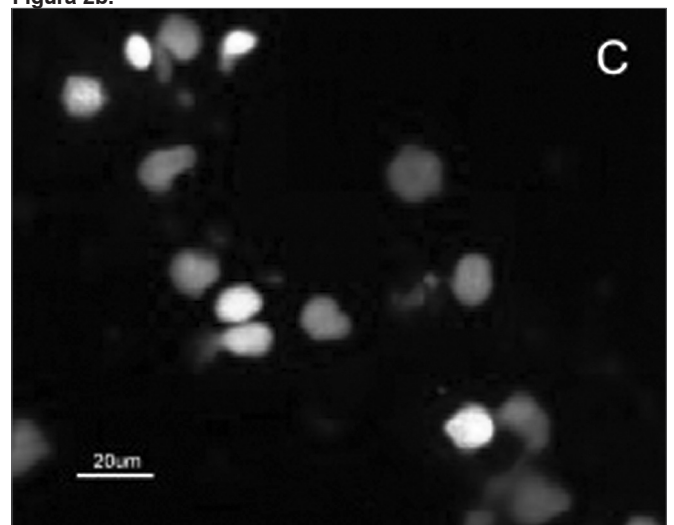


Figura 2c.

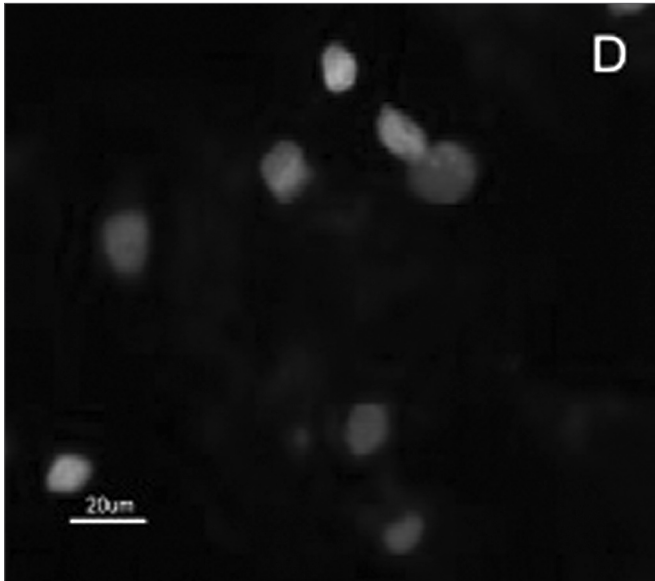


Figura 2d.

Figure 2. Indirect immunofluorescence microphotography where we can see the reactivity difference of SCC cells when compared to that of the normal mucosa cells at MoAb DH2 (AntiGM3).

- A. SCC cells dyed with DH2 (green).
- B. Normal mucosa cells marked with DH2 (green).
- C. SCC cell nuclei dyed with DAPI (blue).
- D. Nuclei of the normal mucosa cells dyed with DAPI (blue)

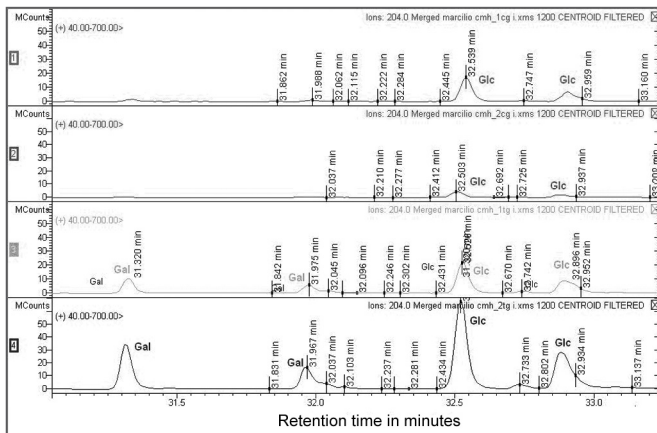


Figure 3. CMH mass spectrometry. The upper lines (A and B) show the identification of sugar residue in the CMH fraction from the upper aerodigestive tract mucosa. Lines C and D correspond to the identification of sugar residues in the SCC CMH fraction. Gal – galactose, Glc – glucose

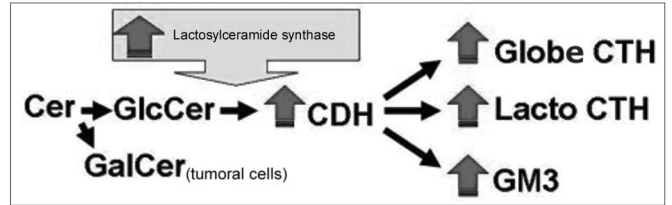


Figure 4. Proposed scheme for the synthesis of gangliosides in order to explain the increase in GSL expression in SCC of the upper aerodigestive tract. The greater activity of lactosylceramide synthase would increase GM3, CTH and CDH expression and, consequently, reduce Glc supply for the synthesis of GlcCer; thus the SCC cells would need to use Gal in order to produce GalCer and maintain the cell membrane structure.

VOLUME 72 ISSUE 4 - Jul/Ago 2006

Adduction laryngeal dystonia: proposal and evaluation of nasofibroscopy

Noemi Grigoletto De Biase • Paula Lorenzon • Mariana Dantas Aumond Lebl • Marina Padovani • Ingrid Gielow • Glaucyia Madazio • Miriam Moraes

Correction of Miram Moraes titles.

⁷ Speech therapist, specializing in Voice at the CEV - Centro de Estudos da Voz – Center for Voice Studies. Speech therapist, collaborator at the Larynx and Voice Department.