

Journal of Andrology, Vol 17, Issue 3 187-193, Copyright © 1996 by The American Society of Andrology

JOURNAL ARTICLE

Difference in glycohistochemical lectin staining of collagen fibers in the corpora cavernosa of normal and impotent men

G. Raviv, E. Wespes, J. P. Vanegas, M. Petein, C. C. Schulman, R. Kiss and A. Danguy

Department of Urology, Erasme Hospital, University Clinics of Brussels, Belgium.

The objectives of this study were to investigate the value of glycohistochemical staining with three lectin types specific to a particular glycan structure (*Arachis hypogaea* [PNA], *Triticum vulgare* [WGA], and concanavalin A [Con A]) as a method of defining possible changes in the collagen structure in the corpora cavernosa in potent and impotent men. The study group consisted of 4 normal potent men and 22 men with various etiologies of impotence. The quantitative histochemical measurements were performed by means of a cell image processor. Two variables for each of the three types of lectins were studied. These were the mean optical density (MOD), which relates to glycohistochemical staining intensity, and the labeling index (LI), which is positively related to the percentage of immunostaining. Only WGA staining made it possible to discriminate significantly between the normal and pathological groups under study. The two parameters (LI, MOD) were significantly higher in the case of WGA staining in the normal group ($P = 0.004$ and 0.013 , respectively). In contrast, only the mean LI value, in the case of the psychogenic and venogenic patients, reached a level of statistical significance ($P = 0.005$ and 0.001 , respectively), when it increased from PNA through WGA to Con A histochemical staining. The two variables (LI, MOD) changed markedly from PNA through WGA to Con A in the arteriogenic patients ($P = 0.003$ and $P < 0.001$, respectively). WGA is of diagnostic value in distinguishing between normal and abnormal collagen in the corpora cavernosa. The difference in the lectin staining of the other groups, particularly the arteriogenic group, may be attributed to alterations in the glycosylation of the procollagen that are probably due to changes in the partial pressure of oxygen (PO_2) level, an important cofactor in normal glycosylation. WGA staining may therefore be used as a marker to distinguish true psychogenic patients from those with organic diseases. Moreover, it may be used as an additional parameter in selecting the best candidates for penile revascularization.

This Article

- ▶ [Full Text \(PDF\)](#)
- ▶ [Alert me when this article is cited](#)
- ▶ [Alert me if a correction is posted](#)

Services

- ▶ [Similar articles in this journal](#)
- ▶ [Similar articles in PubMed](#)
- ▶ [Alert me to new issues of the journal](#)
- ▶ [Download to citation manager](#)

Citing Articles

- ▶ [Citing Articles via Google Scholar](#)

Google Scholar

- ▶ [Articles by Raviv, G.](#)
- ▶ [Articles by Danguy, A.](#)
- ▶ [Search for Related Content](#)

PubMed

- ▶ [PubMed Citation](#)
- ▶ [Articles by Raviv, G.](#)
- ▶ [Articles by Danguy, A.](#)