

Literature matters research bulletin

Laryngeal Papillomatosis with Human Papillomavirus DNA Contracted by a Laser Surgeon

P. Hallmo and O. Naess

Eur Arch Otorhinolaryngol 1991; 248:425-427

Introduction:

The possibility that laser surgeons might inhale virus particles from laser vapor during the removal of certain lesions has been pointed out by several authors.^{1,2,3} Human papillomavirus (HPV) is considered to be the most important potential agent for transmission from patient to surgeon through smoke plume from lasers.

Case report:

A 44 year-old male laser surgeon consulted the Department of Otorhinolaryngology because of hoarseness of 6 months' duration. He did not smoke and used no medicines. Over a 3 year period he had performed several therapeutic procedures with a laser, the lesions primarily involving 55 cancers in the distal colon and rectum, but also 5 patients with anogenital condyloma acuminata. The hospital possessed no laser smoke evacuator system except for the built-in suction in the endoscope used for treatment of intraluminal cancers.

Laryngoscopy of the patient revealed large, confluent papillomatous masses in the anterior laryngeal commissure and along most of the right vocal cord (Image below). Four smaller, discrete, smooth papillomas were situated along the cranial and medial surfaces of the left cord. Biopsies of the laryngeal lesions showed squamous papillomas with moderate focal dysplasia.

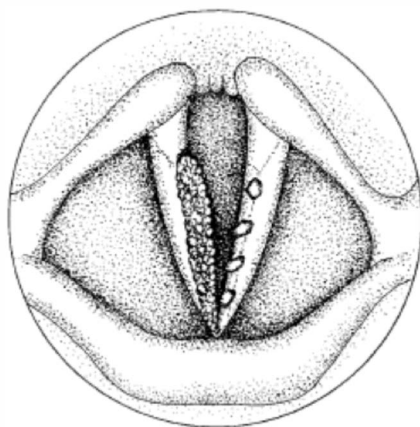


Image of larynx showing papilloma location.

Discussion:

In general, lesions are most often seen on the vocal folds, although the rest of the respiratory tract as well as the pharynx and oral cavity may be affected. The cause of respiratory papillomatosis remains unknown, although strong evidence supports a viral theory.

The usual incubation time for developing condylomas is from 1 month to several months.⁴ Intact HPV has been demonstrated in the CO₂ laser plume from plantar or mosaic warts and anogenital condylomas.^{1,2,5,6}

Like other authors, the authors of this study believe that a well-functioning laser smoke evacuator device adjacent to the operating field is of greatest importance to the laser team. Equipment which provides optimal protection against inadvertent contamination should therefore be obligatory for every laser team.

Literature matters research bulletin

Laryngeal Papillomatosis with Human Papillomavirus DNA Contracted by a Laser Surgeon

1. Andre P, Orth G, Evenou P, Guillaume JC, Avril MF (1990) Risk of papillomavirus infection in carbon dioxide laser treatment of genital lesions. *J Am Acad Dermatol* 22 : 131-132
2. Garden JM, O'Banion MK, Shelnitz LS, Pinski KS, Bakus AD, Reichmann ME, Sundberg JP (1988) Papillomavirus in the vapor of carbon dioxide laser-treated verrucae. *JAMA* 259 : 1199-1202
3. Sawchuk WS, Weber PJ, Lowy DR, Dzubow LM (1989) Infectious papillomavirus in the vapor of warts treated with carbon dioxide laser or electrocoagulation: detection and protection. *J Am Acad Dermatol* 21 : 41-49
4. Noble RC (1982) Sexually transmitted diseases. Guide to diagnosis and therapy. Medical Examination Publishing Co., Garden City, NY, pp 80-87
5. Sawchuk WS, Felten RP (1989) Infectious potential of aerosolized particles (editorial). *Arch Dermatol* 125 : 1689-1692
6. Ferenczy A, Bergeron C, Richart RM (1990) Human papillomavirus DNA in CO2 laser-generated plume of smoke and its consequences to the surgeon. *Obstet Gynecol* 75 : 114-118

The information presented is intended to demonstrate the breadth of Stryker's product offerings. A healthcare professional must always refer to the package insert, product label and/or instructions for use before using any of Stryker's products. Products may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets. Please contact your Stryker representative if you have questions about the availability of Stryker's products in your area.

Stryker Corporation or its divisions or other corporate affiliated entities own, use or have applied for the following trademarks or service marks: Stryker. All other trademarks are trademarks of their respective owners or holders.

Literature Number: D0000000826 Rev. AA

BLD/PS

Copyright © 2018 Stryker

Printed in USA