



Published in final edited form as:

Laryngoscope. 2016 June ; 126(6): E229. doi:10.1002/lary.25874.

Natural History and Management of Fanconi Anemia Patients With Head and Neck Cancer: A 10-Year Follow-up

Blanche P Alter, MD, MPH¹ and Philip S Rosenberg, PhD²

¹Clinical Genetics Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, MD, USA

²Biostatistics Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, MD, USA

To the Editor

Kutler et al. reviewed surgical outcomes in 35 patients with Fanconi anemia (FA) who developed head and neck cancer (HNSCC).¹ They found that surgery works well up front but late events are common. In our view, the experiences of these sentinel patients together with the literature shed light on critical research questions.

First, it is informative to compare 5- and 10-year HNSCC survival in FA versus general population patients followed through the Surveillance, Epidemiology, and End Result (SEER) Program.² The 5-year survival in the general population with HNSCC was 75% for human papilloma virus (HPV)-positive patients and 55% for HPV-negative patients;³ the latter resembles the 5-year survival of about 50% in the FA patients in the Kutler study. However, SEER data indicate that 10-year survival in the general population is about 50%, compared with about 25% in Kutler's paper. This suggests that surgery is as effective in FA as in the general population in the short term, but complications from irradiation,⁴ and late effects such as recurrence or new malignancies, are more common in FA. Hence HNSCC in FA needs to be detected earlier.

Second, the etiology of HNSCC in FA remains unclear. Importantly, there is another publication regarding the role of HPV in FA in addition to the two cited by Kutler et al. The first study by Kutler et al found HPV in 15/18 FA HNSCC,⁵ while the second independent study found no HPV in 16 FA HNSCC.⁶ We also found no HPV in 5 FA HNSCC as well as no HPV in 4 HNSCC from dyskeratosis congenita patients.⁷ Hence, the most recent two studies did not find any HPV. In addition, most HNSCC in FA present in the oral cavity, but in general, HPV positive HNSCC are typically found in the oropharynx. ⁸ While we all agree that the HPV vaccine should be given to patients with FA, the vaccine will not prevent

Corresponding Author: Blanche P Alter, ; Email: alterb@mail.nih.gov, Clinical Genetics Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute, 9609 Medical Center Drive, Room 6E542, MSC 9772, Rockville, MD, USA 20850, tel 240-276-7239, FAX 240-276-7836.

Financial Disclosures: None

Conflicts of Interest: None

HNSCC in FA if HPV is not the cause. More studies are needed to identify the ways that HNSCC is initiated and promoted in FA.

Finally, since increasing numbers of persons with FA are expected to live long enough to develop HNSCC, larger cohorts of patients should be assembled, to inform individualized risk estimates (i.e., with and without stem cell transplant, etc.), as well as surveillance guidelines (i.e. what screening, and how often?).

Acknowledgments

Funding: This research was supported in part by the Intramural Research Program of the National Cancer Institute of the National Institutes of Health.

Reference List

1. Kutler DI, Patel KR, Auerbach AD, et al. Natural history and management of Fanconi anemia patients with head and neck cancer: A 10 year follow-up. LID - 10.1002/lary.25726 [doi]. (1531-4995 (Electronic)).
2. seer.cancer.gov/seerstat 8.2.1. 2015.
3. Fakhry C, Westra WH, Li S, et al. Improved survival of patients with human papillomavirus-positive head and neck squamous cell carcinoma in a prospective clinical trial. *J Natl Cancer Inst.* 2008 Feb 20; 100(4):261–269. [PubMed: 18270337]
4. Alter BP. Radiosensitivity in Fanconi's anemia patients. *Radiotherapy and Oncology.* 2002; 62:345–347. [PubMed: 12175566]
5. Kutler DI, Wreesmann VB, Goberdhan A, et al. Human papillomavirus DNA and p53 polymorphisms in squamous cell carcinomas from Fanconi anemia patients. *J Natl Cancer Inst.* 2003 Nov 19;95(22):1718–1721. [PubMed: 14625263]
6. van Zeeburg HJ, Snijders PJ, Wu T, et al. Clinical and molecular characteristics of squamous cell carcinomas from Fanconi anemia patients. *J Natl Cancer Inst.* 2008 Nov 19; 100(22):1649–1653. [PubMed: 19001603]
7. Alter BP, Giri N, Savage SA, Quint WG, de Koning MN, Schiffman M. Squamous cell carcinomas in patients with Fanconi anemia and dyskeratosis congenita: A search for human papillomavirus. *Int J Cancer.* 2013 Sep 15; 133(6):1513–1515. [PubMed: 23558727]
8. Gillison ML, Lowy DR. A causal role for human papillomavirus in head and neck cancer. *Lancet.* 2004 May 8; 363(9420):1488–1489. [PubMed: 15135592]