

CORRESPONDENCE

The Diagnosis, Treatment, and Follow-up of Renal Cell Carcinoma

by Prof. Dr. med. Christian Doehn, Prof. Dr. med. Viktor Grünwald, Prof. Dr. med. Thomas Steiner, Dr. med. Markus Follmann, MPH M.Sc., Heidrun Rexer, Prof. Dr. med. Susanne Krege in issue 35–36/2016

Renal Cell Carcinoma as an Occupational Disease

In their article the authors reported the risk factors for renal cell carcinoma and mentioned the most common causes, such as smoking, overweight, and hypertension. (1)

From the perspective of occupational medicine, it should be added that exposure to trichloroethylene in the workplace can also cause renal cell carcinoma under certain conditions. Several case studies from different European countries found a significant statistical association between several years of massive exposure to trichloroethylene and an increased incidence of renal cell carcinoma, which was confirmed in a meta-analysis (2–4). The statistical association is toxicologically plausible.

In such patients, renal cell carcinoma may therefore be an occupational disease (BK 1302: *Erkrankungen durch Halogenkohlenwasserstoffe* [documentation on occupational diseases of the German employer’s liability insurance association, leaflet BK 1302: diseases caused by halogenated hydrocarbons]) if several years of regular exposure in the so-called high-dose range (exposure to air concentrations of 300 ppm and higher) have been confirmed. An additional occupational cause of renal cell carcinoma is exposure to cadmium and cadmium compounds, although the causal association in the sense of an occupational disease—in this case BK 1104: diseases caused by cadmium and its compounds may apply—requires further study.

It should be pointed out that according to § 202 SGB [*Sozialgesetzbuch*, German Social Code] VII, the treating physician is obliged to bring a suspected occupational disease to the attention of the Social Accident Insurance without any further delay.

DOI: 10.3238/arztebl.2017.0160a

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Conflict of interest statement

The author declares that no conflict of interest exists.

In Reply:

We thank Prof. Triebig for his comments on the S3 guideline on renal cell carcinoma and our review article (1). He draws attention to an important occupational medical aspect in the epidemiology of renal cell carcinoma. On the basis of data from toxicity analyses, animal experiments, and epidemiological studies, the International Agency for Research on Cancer (IARC) classifies trichloroethylene as carcinogenic to humans (group 1 carcinogen) (2). Occupational exposure to trichloroethylene as a risk factor for developing renal cell cancer is of particular importance in this setting.

Cohort studies so far have not consistently shown an association between exposure to trichloroethylene and the risk of renal cell cancer. Two recent meta-analyses of available case-control and cohort studies have confirmed a moderate increase in the risk of renal cell carcinoma in association with a particularly high occupational exposure to trichloroethylene, with a meta-RR (relative risk) of 1.58 (95% confidence interval [1.28; 1.96]) (3, 4). Basically, any renal cell carcinoma may also be an occupational cancer. The proportion of occupationally caused cancers among cases of renal cell carcinoma occurring in Germany is altogether estimated as small. In addition to trichloroethylene, cadmium (cadmium compounds) and haloalkanes, aryl halides, or alkaryloxides (documentation on occupational diseases of the German employer’s liability insurance association, leaflet BK 1310) are possible carcinogens for renal cell carcinoma. Occupational exposure to carcinogens needs to be considered by doctors when taking a patient’s medical history, so as to be able to meet their obligation to notify an occupational disease to the relevant authorities.

The importance of renal cell carcinoma as an occupational disease has thus far not been considered in the S3 guideline. Prof. Triebig’s valuable comments are therefore welcome suggestions for further additions to the guideline and will be included in the forthcoming update.

DOI: 10.3238/arztebl.2017.0160b

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Conflict of interest statement

Prof. Doehn owns stock in Bayer Healthcare, AstraZeneca, and BMS. He has served as a paid consultant for Bayer Healthcare, BMS, GSK, Janssen-Cilag, Novartis, Pfizer, and Roche. He has received reimbursement of meeting participation fees from BMS, GSK, Novartis, and Pfizer, and reimbursement of travel and accommodation expenses from BMS, GSK, Novartis, Pfizer, and Roche. He has received payment for preparing scientific meetings from Bayer Healthcare, BMS, GSK, Novartis, Pfizer, and Roche.
Prof Weikert declares that no conflict of interest exists.