The association between occupational cadmium exposure and prostate cancer in worker : an Evidence-Based case report = Hubungan antara pajanan kadmium dan kanker prostat pada pekerja : laporan kasus berbasis bukti

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Abstrak

Pendahuluan. Kadmium memiliki peranan penting karena banyak digunakan di berbagai macam industri. Kadmium dapat masuk dan terakumulasi dalam tubuh termasuk di prostat. Kadmium sangat toksik dan bisa menyebabkan kanker. Tujuan dari laporan kasus berbasis bukti ini adalah untuk mendapatkan jawaban yang tepat terkait hubungan antara pajanan kadmium di tempat kerja dan kanker prostat pada pekerja. Metode. Pencarian literatur dilakukan melalui database PubMed, Scopus dan Cochrane Library. Kata kunci yang digunakan adalah cadmium, cancer, prostate, work* dan occupation*. Pemilihan artikel menggunakan kriteria inklusi dan eksklusi yang telah ditetapkan. Kemudian dilakukan penilaian kritis menggunakan kriteria yang relevan untuk studi etiologi atau systematic review berdasarkan Oxford Center for Evidence-Based Medicine. Hasil. Terpilih dua artikel yang relevan dan valid dengan desain studi systematic review dan meta-analisis. Penelitian dari Ju-Kun, dkk menunjukkan rasio kematian terstandarisasi (standardized mortality ratio) antara pajanan Cd dan risiko terjadinya kanker prostat adalah 1.66 (95% CI 1.10–2.50) pada populasi pekerja yang terpajan Cd. Berdasarkan penelitian Chen, dkk menunjukkan bahwa pekerja dengan pajanan kadmium memiliki risiko terjadinya kanker prostat yang lebih tinggi dibandingkan populasi umum, namun secara statistik tidak signifikan yakni dengan nilai OR pada studi case-control 1.17 (95%CI [0.85-1.62]), dan standardized mortality ratio (*100) pada studi kohort adalah 98 (95%CI [75-126]). Kesimpulan. Hasil studi yang ada tidak menunjukkan bukti yang cukup untuk memastikan bahwa pajanan kadmium bisa menyebabkan kanker prostat pada pekerja.

.....Introduction. Cadmium has an important role because widely used in various industries. Cadmium penetrates and can be accumulated in human body including prostate. Cadmium is highly toxic and can cause human carcinogens. The aim of this evidence-based case report is to get an appropriate answer about the association between occupational cadmium exposure and prostate cancer in worker. Method. The literature searching was conducted through PubMed, Scopus and Cochrane Library. The keywords used were cadmium, cancer, prostate, work* and occupation*. The selection of articles was performed using the defined inclusion and exclusion criterias. Then, they were critically appraised using relevant criteria by the Oxford Center for Evidence-Based Medicine for etiological study or systematic review. Result. Two relevant and valid articles with systematic review and meta-analysis study design were included. Studies by Ju-Kun, et al. showed that the combined standardized mortality ratio of the association between Cd exposure and risk of prostate cancer was 1.66 (95% CI 1.10–2.50) in populations exposed to occupational Cd. While a study by Chen, et al. showed that workers with cadmium exposure have more risk for prostate cancer than general population but was not significant statistically with the weighted OR in case-control studies was 1.17 (95%CI [0.85-1.62]), and the weighted standardized mortality ratio (*100) in cohort studies was 98 (95%CI [75-126]). Conclusion. The current evidences do not show sufficient evidence to ensure that cadmium exposure can cause prostate cancer in worker.