

# Hubungan antara paparan karbon disulfida kerja melalui inhalasi dengan kejadian neuropati perifer di antara pekerja industri rayon: Laporan kasus berbasis bukti = The relationship between carbon disulfide inhalation exposure with peripheral neuropathy in workers: Evidence-Based case reports

Achmad Ghozali Thohir, author

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## Abstrak

Seorang pekerja laki-laki 38 tahun mengalami gejala gangguan saraf tepi dan di diagnosis neuropati perifer. Pekerja tersebut memiliki riwayat bekerja sebagai operator mesin Spinning di pabrik pembuatan rayon selama 10 tahun dengan riwayat paparan CS<sub>2</sub> melebihi nilai ambang batas secara inhalasi. Tujuan dari laporan kasus berbasis bukti ini adalah untuk mendapatkan jawaban yang tepat tentang hubungan antara paparan karbon disulfida kerja melalui inhalasi dengan neuropati perifer di antara pekerja industri rayon. Pencarian artikel dilakukan melalui PubMed, Scopus, Medline, Embase dan handsearching. Kriteria inklusi adalah Tinjauan Sistematis, Meta-Analisis, Studi Kohort, Studi Kasus-kontrol, Studi potong lintang, pekerja dengan paparan CS<sub>2</sub> secara inhalasi di lingkungan kerja, hasil diagnosis neuropati perifer atau hasil tes konduktifitas saraf sebagai alat diagnostik baku neuropati perifer ( MNCV dan SNCV ). Kemudian ditelaah secara kritis menggunakan kriteria CEBM oxford untuk studi etiologi . Dari hasil pencarian artikel didapatkan 4 jurnal penelitian. Terdapat satu artikel studi kohort prospektif dan tiga artikel studi potong lintang. Hasil telaah kritis 4 studi penelitian belum cukup kuat menunjukkan hubungan antara paparan CS<sub>2</sub> inhalasi dengan neuropati perifer. Namun nilai penurunan konduktivitas saraf tepi dikatakan bermakna jika kecepatan konduktivitas saraf tepi ekstremitas atas < 50 m/s dan ekstremitas bawah jika < 40 m/s.

.....Carbon disulfide (CS<sub>2</sub>) is widely used in various industries as a raw material for the manufacture of goods such as rayon, cellophane, and carbon tetrachloride. Currently, the largest user of this chemical is the rayon fibre industry. This evidence-based case report aims to obtain precise answers regarding the relationship between occupational carbon disulfide exposure through inhalation and peripheral neuropathy among rayon industry workers. A 38-year-old male worker had peripheral nerve disorder symptoms and was diagnosed with peripheral neuropathy. The worker had a history of working as a spinning machine operator in a rayon manufacturing factory for 10 years with a history of exposure to CS<sub>2</sub> exceeding the threshold value through inhalation. An article search was conducted through PubMed, Scopus, Medline, Embase, and manual searching. The articles were then critically appraised using Oxford's CEBM criteria for etiological studies. The article searches resulted in one prospective cohort study and three cross-sectional studies. Based on the patient's condition, the findings from the 4 research studies were insufficient to establish a link between inhalation exposure to CS<sub>2</sub> and peripheral neuropathy. Further studies with a stronger association level are needed to establish the relationship between inhaled CS<sub>2</sub> exposure and peripheral neuropathy.