ABSTRACT

Benzene, which can be found in petrol vapour, on chronic exposure can cause pathological changes in buccal mucosa epithelial cells when one inhales it. Petrol station workers are chronically exposed to benzene via inhalation during vehicle refueling. This study is aimed to determine the effect of prolonged exposure of benzene to the frequency of pyknotic nuclei of buccal mucosa epithelial cells of gas station workers.

This study was carried out on 13 Pertamina petrol station workers in Sleman, Yogyakarta. The control group was consisted of 13 healthy subjects who were not exposed to benzene and were chosen from Faculty of Dentistry, University Gadjah Mada. Buccal cell samples were collected by swabbing them with a cytobrush. Slides were stained with Papaniculaou stain and were evaluated to determine the pyknotic nucleus frequency.

The results showed that there was a significant difference ($p<0.05$) between the mean pyknotic cells frequency of the exposed group and the control group.. This study concluded that the exposure of petrol vapour that contained benzene can cause an increment in the pyknotic cells frequency in the buccal mucosa epithelial cell layer.

Keywords: Benzene, petrol, pyknotic nucleus, gas station workers

INTISARI

Benzena yang dapat ditemukan di uap bensin, pada paparan kronis dapat menyebabkan perubahan patologis di mukosa bukal sel epitel ketika seseorang menghirupnya. Pekerja SPBU terpapar benzena secara kronis melalui inhalasi selama pengisian bahan bakar kendaraan. Penelitian ini bertujuan untuk mengetahui pengaruh paparan kronis benzena terhadap frekuensi nukleus piknotik di mukosa bukal sel epitel pekerja SPBU.

Penelitian ini dilakukan pada 13 orang pekerja SPBU di Sleman, Yogyakarta. Kelompok kontrol terdiri dari 13 orang subjek sehat yang tidak terkena paparan benzena dari Fakultas Kedokteran Gigi, Universitas Gadjah Mada. Sampel sel bukal diusap dengan *cytobrush*, kemudian *slide* diwarnai dengan perwarnaan *Papaniculaou* dan dievaluasi untuk menentukan frekuensi nukleus piknotik.

Hasil penelitian menunjukkan bahwa ada perbedaan yang signifikan ($p < 0,05$) antara rerata frekuensi sel piknotik kelompok terpapar dan kelompok kontrol. Kesimpulan penelitian ini adalah paparan uap bensin yang mengandung benzena dapat menyebabkan kenaikan frekeunsi sel piknotik pada mukosa bukal sel epitel.

Kata kunci: Benzene, bensin, inti pyknotic, pekerja SPBU