

INTISARI

Pemanggangan sate ayam menghasilkan asap yang dimungkinkan mengandung hidrokarbon polisiklik aromatik (HPA). Paparan dosis rendah diduga dapat memicu respon seluler berupa kematian sel. Piknosis merupakan salah satu perubahan morfologi pada apoptosis maupun nekrosis dan digunakan untuk mendeteksi dini kerusakan sel akibat paparan HPA. Tujuan penelitian ini untuk mengetahui pengaruh paparan asap pemanggangan sate terhadap frekuensi piknosis sel epitel mukosa bukal pemanggang sate ayam.

Pada penelitian ini, subjek berasal dari wilayah Sleman, Yogyakarta. Kelompok terpapar terdiri dari 10 orang pemanggang sate ayam, sedangkan kelompok kontrol terdiri dari 10 orang mahasiswa dan karyawan Fakultas Kedokteran Gigi, UGM. Pengambilan sel epitel mukosa bukal dengan usapan (*swab*) menggunakan *cytobrush* dan selanjutnya proses pewarnaan histologi dengan metode *Papanicolaou*. Preparat diamati dengan mikroskop cahaya binokuler dengan perbesaran 400x. Sel piknosis dihitung dari 1000 sel setiap subjek. Sel piknosis memiliki inti menyusut, memadat, dan lebih basofil. Hasil penelitian diuji menggunakan *Independent t-test*. Durasi paparan pada kelompok terpapar dibagi berdasarkan kuartil menjadi tiga kelompok yaitu <4, 4-14, dan >14 tahun, selanjutnya diuji menggunakan uji *One-Way ANOVA* dan *Post Hoc Tukey HSD* pada $p < 0,05$.

Hasil menunjukkan bahwa terdapat peningkatan frekuensi piknosis sel epitel mukosa bukal pemanggang sate ayam akibat paparan dari asap pemanggangan sate ayam. Durasi paparan asap pemanggangan sate berpengaruh terhadap frekuensi piknosis. Peningkatan secara signifikan frekuensi piknosis sel epitel mukosa bukal dimulai pada paparan setelah empat tahun.

Kata kunci: Epitel mukosa bukal, hidrokarbon polisiklik aromatik, piknosis

ABSTRACT

Grilling chicken satay produces smoke that is possible to contain polycyclic aromatic hydrocarbons (PAH). Exposure to low doses is thought to trigger cellular responses to the form of cell death. Pyknosis is one of the morphological changes in apoptosis and necrosis and is used to detect cell damage early due to PAH exposure. The purpose of this study was to determine the effect of satay grilling smoke exposure to the frequency of pyknosis of buccal mucosal epithelial cells in satay chicken grills.

In this study, the subjects were from Sleman, Yogyakarta. The exposed group consisted of 10 chicken satay grills, while the control group consisted of 10 students and staff of the Faculty of Dentistry, UGM. The buccal mucosal epithelial cells were taken by swab using a cytobrush and then the histological staining process by the Papanicolaou method. The preparations were observed with a binocular light microscope with a magnification of 400x. Pyknosis cells were counted from 1000 cells per subject. Pyknosis cells have a shrinking, denser, and more basophilic nucleus. The results of the study were tested using independent t-test. The duration of exposure to the exposed group was divided by quartile into three groups; <4 , 4-14 , and > 14 years, then tested using the One-Way ANOVA and Post Hoc Tukey HSD tests for $p < 0.05$.

The results showed that there was an increase in the frequency of pyknosis of buccal mucosal epithelial cells of chicken satay grill as a result of exposure to grilling chicken satay smoke. The duration of exposure to satay grilling smoke affects the frequency of pyknosis. A significant increase in the frequency of pyknosis of buccal mucosal epithelial cells begins at exposure after four years.

Keywords: Buccal mucosal epithelial, polycyclic aromatic hydrocarbons, pyknosis