Abstract

HAA are compounds which are showing numerous carcinogenic impacts on studied animals even human cells. These carcinogenes arise during the heat processing of meat or during (cigarette) smoking. Activation of these compounds is required to their carcinogenic effect. Most of all HAA are first activated by cytochrome P450 (CYP) especially subfamily 1A1 and 1A2. As a consequence of activation with these enzymes are created N-hydroxylamines, which weakly reacting with DNA. For better formation of DNA aducts one more activation is essential. More reactive acetate and sulphate esters arise by second activation from N-hydroxylamines. The esters are produced by sulphotranspherase (SULT) even N-acetotranspherase (NAT).

When we affect these enzymes we could positive control the formation of carcinoma.

Caffeic acid is considered as a strong inhibitor of one SULT subfamily (phenolic sulfotranspherase P - PST). On the other side as a good inhibitor of NAT is considered (known) quercetin. (in czech)

Key words: Heterocyclic amine, biotransformation, cytochrome P450, sulfotransferase, N-acetyltransferase