

Alcohol and Cancer

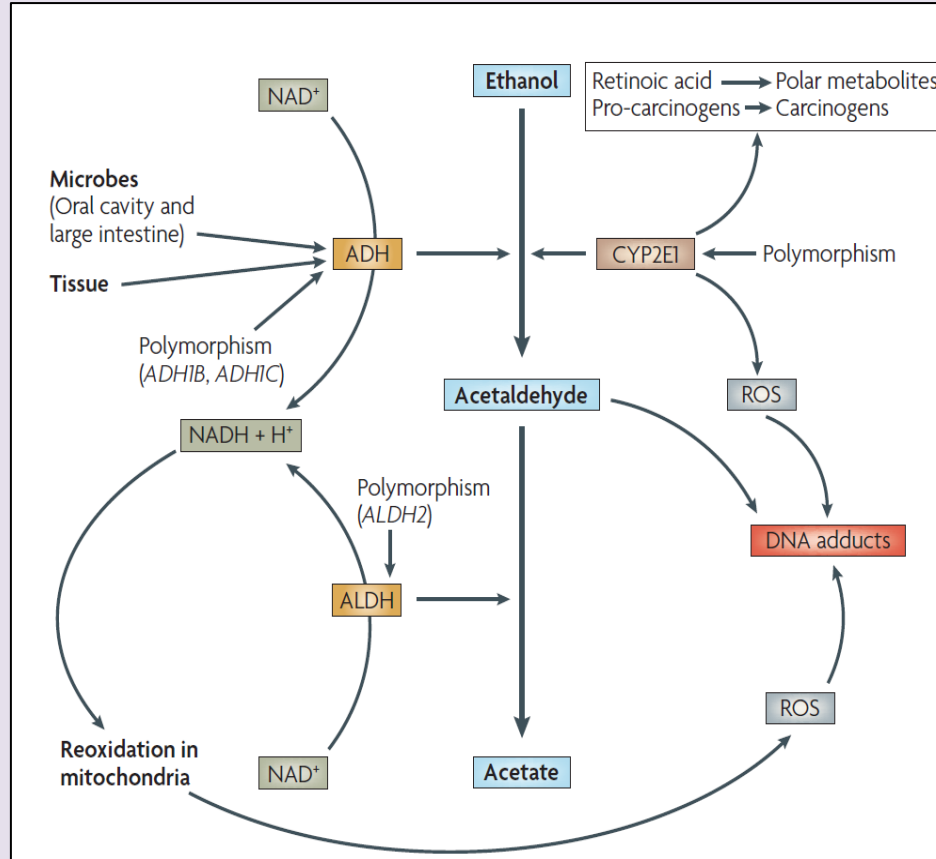
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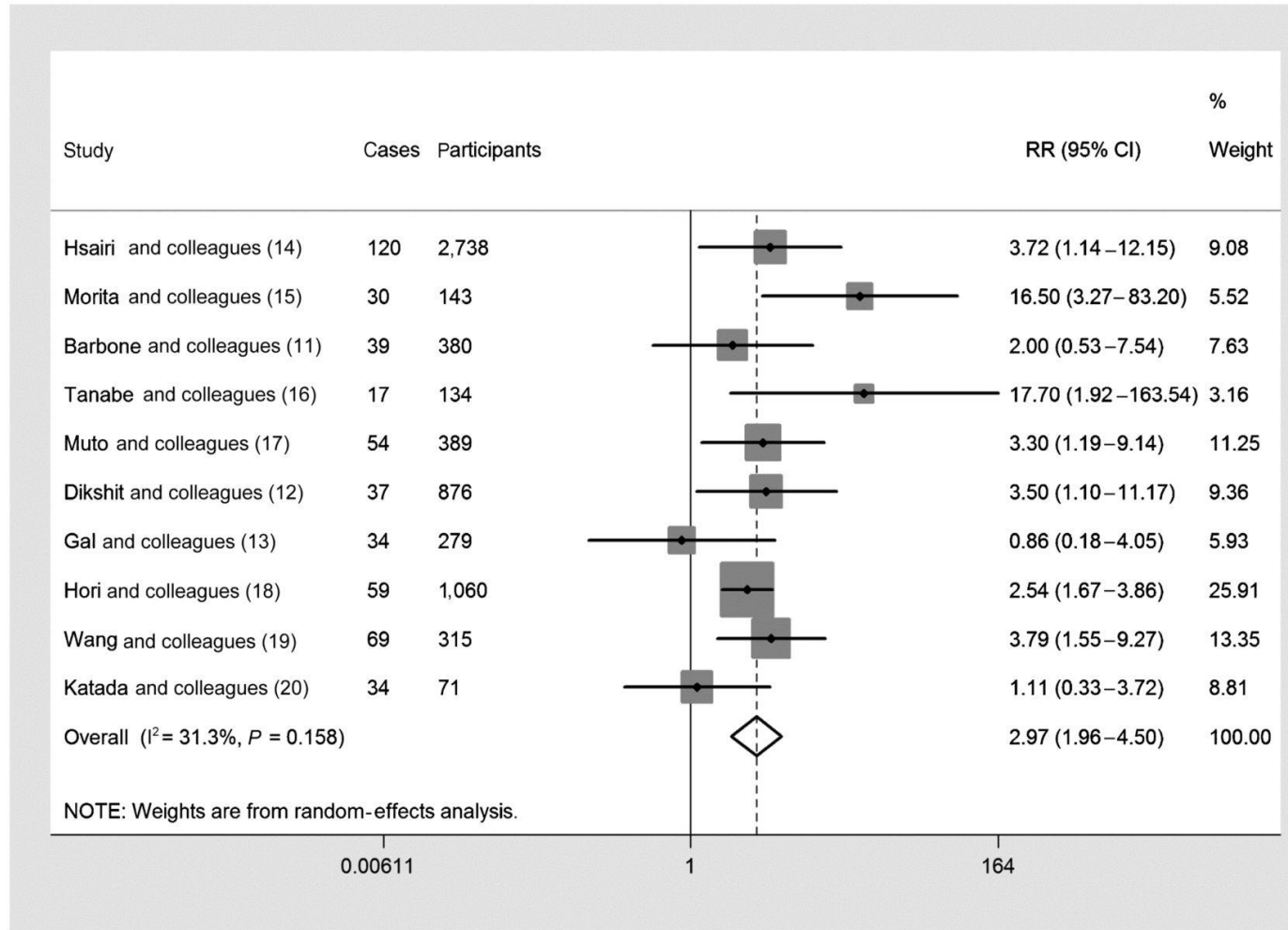
Alcohol Metabolism and Role in Carcinogenesis

WHO International Agency for Research on Cancer (IARC) classifies “ethanol in alcoholic beverages” and “acetaldehyde” as human carcinogens.



- DNA, protein, and lipid alterations/damage
- Oxidative stress
- Inflammation
- Nutritional malabsorption
- Immune-dysregulation
- Increased estrogen levels – breast cancer

Meta-analysis of Alcohol Use and Upper Aerodigestive Track Cancer Recurrence



Alcohol and the Cancer Patient

2000-2017 National Health Interview Survey of adults with cancer: 56% reported being current drinkers, 34% exceeded moderate limits (>1 drink/day among women and >2 drinks/day among men and 21% engaged in binge drinking

Alcohol abuse is associated with comorbid psychiatric conditions which may affect cancer treatment adherence and quality of life

Heavy alcohol use is predictive of malnutrition and may affect the immune system causing increased susceptibility to bacterial infections with potentially poorer outcomes

Sanford NN, J Natl Compr Cancer Network, 2020

Lundberg JC, psycho-oncology. 6:253-266, 1997

Szabo G et al. Am J Gastroenterol. 92:485-489, 1997

Alcohol and Impact on Cancer Treatment

Heavy alcohol use is associated with post operative complications, poorer surgical outcomes and longer hospitalizations

Heavy drinkers have increased comorbidities e.g., cardiovascular risk, liver dysfunction, baseline neuropathy that can complicate systemic treatment choices and guideline adherence

Smoking and alcohol use during and after radiation for oropharyngeal cancer have been associated with increased risk of osteoradionecrosis of jaw

Summary

- Research is needed on the mechanistic effects of alcohol on tumor biology and efficacy of cancer treatments e.g., radiation, chemotherapy, immunotherapy etc.
- Heavy alcohol use is associated with post operative morbidity, infection, wound and pulmonary complications and longer hospitalizations
- The effect of alcohol use (pre/post cancer diagnosis) on quality of life (e.g., mental and physical health) is not well understood and most studies have focused on breast, colorectal and upper aerodigestive track and risk of recurrence or death
- High prevalence of alcohol use among cancer survivors- increased public awareness needed on impact of alcohol use. Alcohol use during cancer treatment should be avoided due to known and unknown effects on treatment