Carcinogens in Grilled Meat

Prelims: *Science and technology | current events of national and international importance.*

Why in News?

Recently, the American Institute for Cancer Research found that grilling meat over high heat or an open flame produces cancer-causing carcinogens.

Recent Issue

- **Grilled meat** - Contains carcinogenic compounds that cause changes in the DNA.
- **Cancer** - It ***causes inflammation*** that makes you prone to cancer.
- **Carcinogens found** - Polycyclic aromatic hydrocarbons (PAHs) and heterocyclic aromatic amines (HCAs)
- **Carcinogen group** – Group 1.

Heterocyclic aromatic amines (HCAs)

- **Formation** - Formed when amino acids (the building blocks of proteins), sugars, and creatine or creatinine (substances found in muscle) react at high temperatures.
- **Effects** - Potent *mutagens* and *carcinogens* linked to an increased risk of various cancers.

Polycyclic Aromatic Hydrocarbons (PAHs)

- **Formation** -They are formed when fat and juices from meat grilled directly over a heated surface or open fire drip onto the surface or fire, causing flames and smoke.
- The smoke contains PAHs that then adhere to the surface of the meat.
- **Other sources** - Forest fires and volcanic eruptions.
- **Effects** - Carcinogens, mutagens, teratogens, and infertility.

Classification of carcinogens



Reducing steps

- **While grilling** - Always marinate, meat Shorten grill time, Flip the meat often.
- **Food preferences** - Never binge eat barbecue, always choose leaner meats.

Reference

Times now| Grilled meat contains carcinogens

SHANKAR IAS PARLIAMENT
Information is Empowering