

# Colon cancer Pathways

H Awad

- Colon cancer occurs mainly through 2 pathways
- 1. Mutation of APC gene
- 2. Mutation of mismatch repair genes.

# APC

- Loss of APC gene can be inherited or acquired.
- Inherited loss: patient born with one lost allele, if the second allele is also lost, through an acquired mutation or deletion then colon cancer occurs.
- Patients who inherit one lost allele develop many colonic polyps (adenomas)... at least 100 polyps needed to make the diagnosis.

Prophylactic colectomy is offered to those patients in order to avoid colon cancer.

# Mismatch repair genes

- Loss can be inherited or acquired.
- Patients have colon cancer without developing polyps.
- Colon cancer in these patients usually occurs before 50 and is right sided.
- Inherited cases are called Lynch syndrome or HNPCC= hereditary non-polyposis colorectal carcinoma.