Fish oils – a novel treatment in the fight against pancreatic cancer?

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1. Fish Oils
- Two main types of Omega-3 fatty acid:
  - DHA and EPA
- Dietary source: Cold water fish – eg Salmon, Mackerel
- Has anti-inflammatory properties, protective against heart disease and cancers.
- DID YOU KNOW: The human body is not able to desaturate double bond hence: omega-3 are essential fatty acids

2. Pancreatic Cancer
- Pancreatic Cancer is the 4th most common cause of death.
- Incidence of 8 per 100,000 population
- Poor prognosis: Average survival 4 – 6 Months, 5 year survival 7% * Broadly speaking survival rates have not improved over 40 years.
- Risk factors: smoking, obesity, excess alcohol
- ? CAN YOU NAME THE FAMOUS CELEBRITIES WITH PANCREATIC CANCER FROM THEIR SILHOUETTES ON THE LEFT?

3. Experimental Study
- Two arm study: 5 patients with advanced pancreatic adenocarcinoma receiving 1 month of intravenous fish oil + chemotherapy [FISH OIL] vs 5 patients receiving intravenous chemotherapy alone [CONTROL].
- Blood sample analysed using mass spectrometer analysis to uncover differences in protein profile.

4. Results
- Clinically: improvement in quality of life and disease stabilisation on treatment with fish oils.
- 3476 proteins identified. Treatment with FISH OIL resulted in:
  - Reduced markers of inflammation (CRP, Haptoglobin and Serum amyloid A1).
  - Reduction in new blood vessel formation (angiogenesis), a hallmark of cancer.
  - Direct action via the Pi3K-AKT cancer pathway, which leads to increased cancer cell death (apoptosis).

5. Conclusion
- Fish oil is safe to administer to patients with advanced pancreatic cancer.
- We have confirmed that FISH OILS:
  - REDUCES INFLAMMATION
  - STOPS FORMATION OF NEW BLOOD VESSELS
  - DIRECTLY AFFECT PANCREATIC CANCER PATHWAYS TO KILL CANCER CELLS

References

Investigation

Funding Source:
B Braun Melsulgen
HOPE against Cancer

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