Proposed explanation of why perioperative NSAID ketorolac prevents relapses

Primary breast cancer

Primary surgery

Transient systemic inflammation (1 week)

IL-6

COX-2

SDF-1

VEGF/bFGF

BMDC

Endothelial cells —— Tumor cells

Relapses at 9 – 18 months post surgery

Cell releasing

Cells in circulation before, during and after surgery

Biological explanation - Potential points of restriction by perioperative NSAID ketorolac

Mechanical explanation - restriction of transient capillary leakage by perioperative NSAID ketorolac and preventing surgery induced angiogenesis

Cancer stem cells in marrow or other reservoir

Long lasting CTC or cancer cells imbedded in reservoirs or other organs leading to late relapses

CTC