

Potential treatments in the clinic

Vikas and Vidula Sukhatme

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Diagnosis of cancer

Loco-regional disease

Surgery, RT, chemo, targeted Rx

Cure Loco-regional recurrence

Metastatic disease

Chemo, targeted Rx, anti-angiogenic, immunotherapy; surgery, RT and chemo for palliation

Standard of Care

Progressive disease and death

Cure

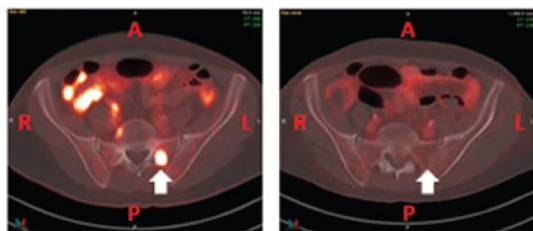
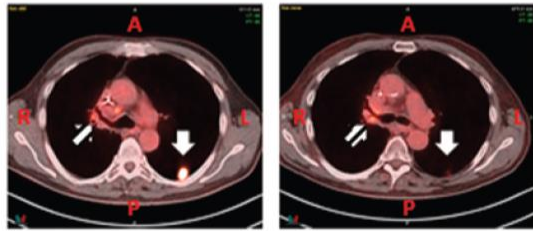
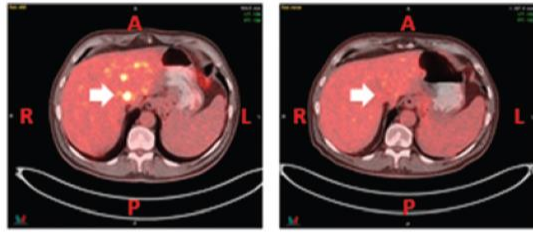
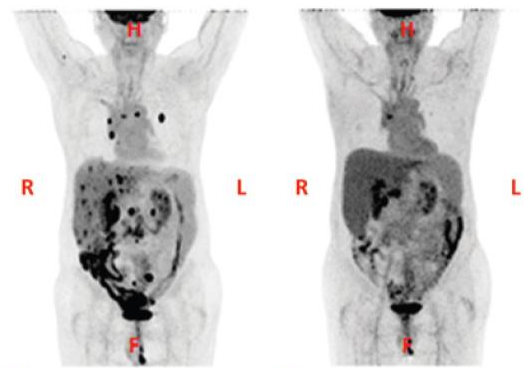


Clinic patients

- Patients who have exhausted standard of care and are unwilling to enroll in or are ineligible for clinical trials
- Patients refusing to accept toxicity of current therapies
- Cancer patients with poor prognosis e.g. GBM, NSCLC, pancreatic
- Patients desiring to prevent cancer recurrence

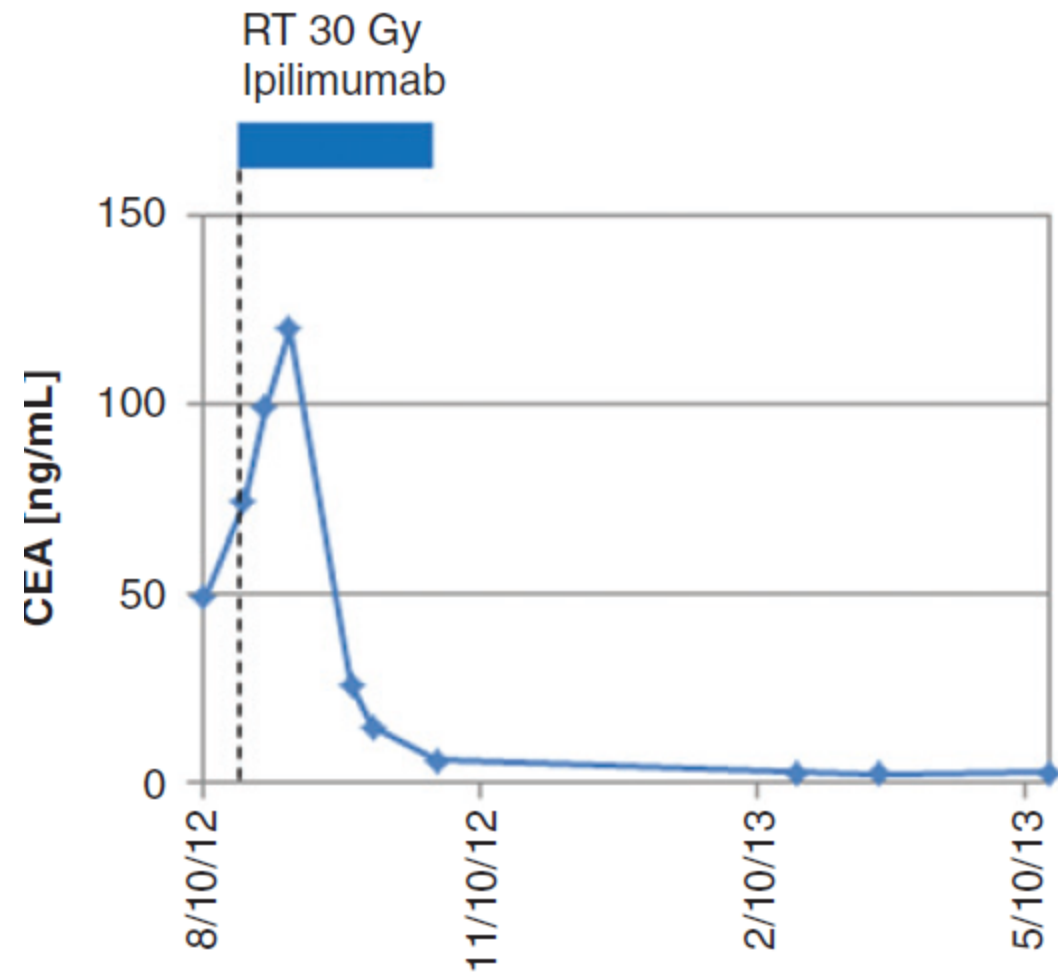
Clinic patients

- Patients who have exhausted standard of care and are unwilling to enroll in or are ineligible for clinical trials
 - Genomic sequencing followed by actionable targeted therapy
 - Creating systemic immunity with localized radiation and checkpoint inhibitors



August 2012 PET/CT

January 2013 PET/CT



An Abscopal Response to Radiation and Ipilimumab in a Patient with Metastatic Non-Small Cell Lung Cancer

Encouse B. Golden, Sandra Demaria, Peter B. Schiff, et al.

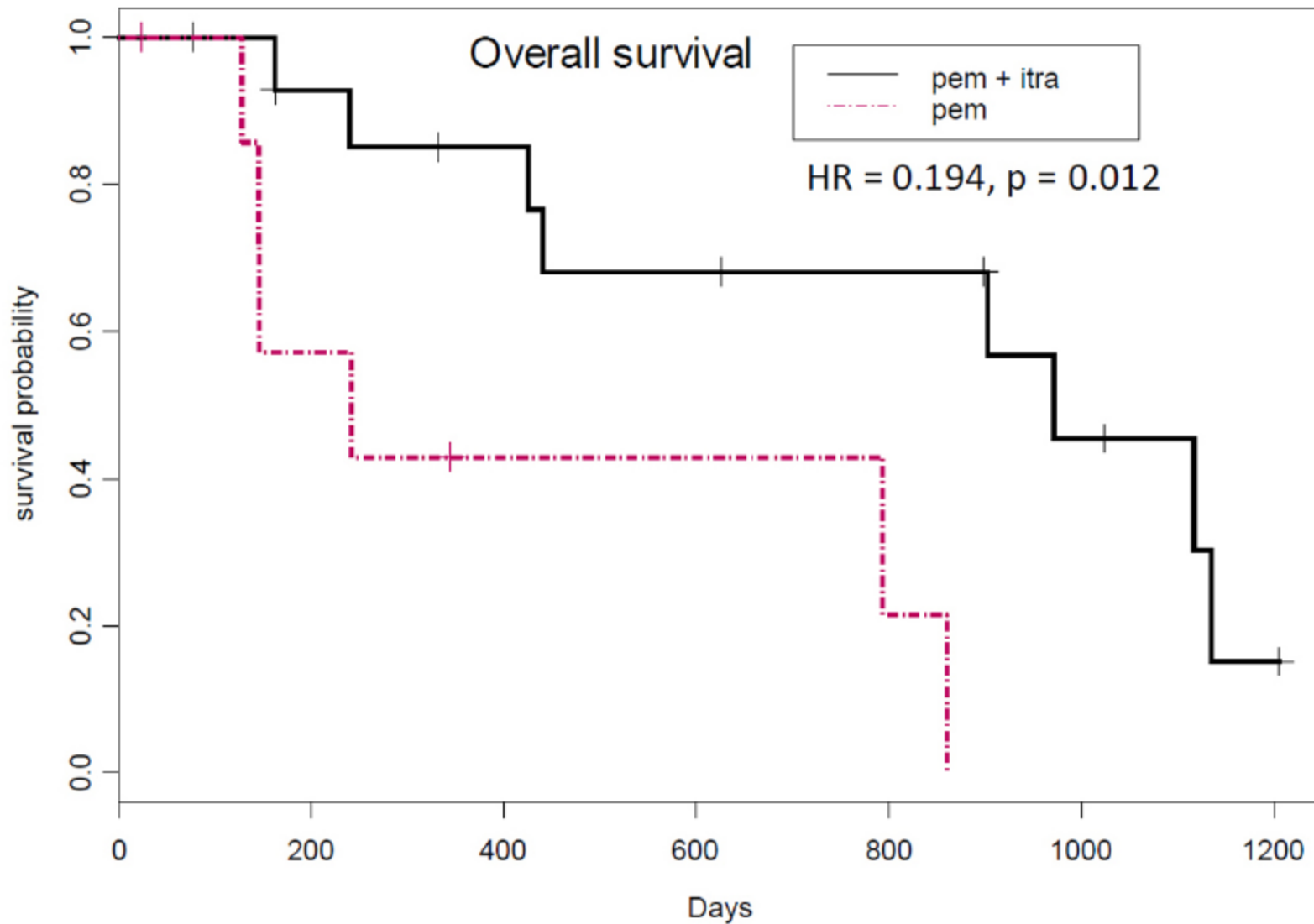
Cancer Immunol Res 2013;1:365-372. Published OnlineFirst October 9, 2013.

Clinic patients

- Patients refusing to accept toxicity of current therapies
 - Metronomic chemotherapy
 - Metabolic cocktails

Clinic patients

- Cancer patients with poor prognosis e.g. GBM, NSCLC, pancreatic
 - Stem cell therapies in conjunction with standard of care



J Thorac Oncol. 2013 May ; 8(5): 619–623. doi:10.1097/JTO.0b013e31828c3950.

**Phase 2 Study of Pemetrexed and Itraconazole as Second-Line
Therapy for Metastatic Non-Squamous Non-Small Cell Lung
Cancer**
Rudin et al

Clinic patients

- Patients desiring to prevent cancer recurrence
 - Ketorolac pre-operatively

Do Intraoperative Analgesics Influence Breast Cancer Recurrence After Mastectomy? A Retrospective Analysis

Patrice Forget, MD,* Julie Vandenhende, MD,* Martine Berliere, MD, PhD,†
Jean-Pascal Machiels, MD, PhD,‡ Benoît Nussbaum, MD,* Catherine Legrand, PhD,§
and Marc De Kock, MD, PhD*

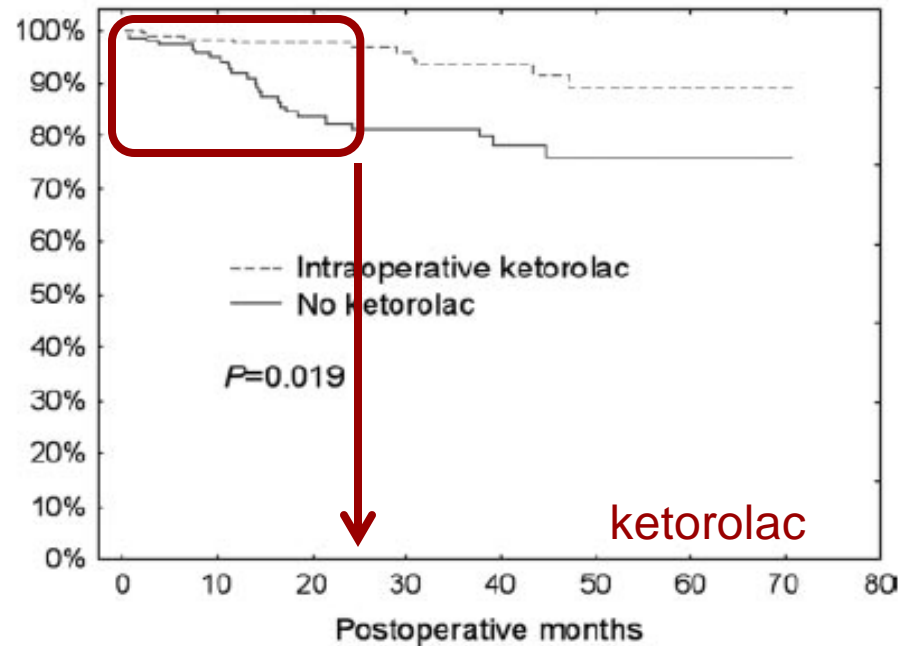
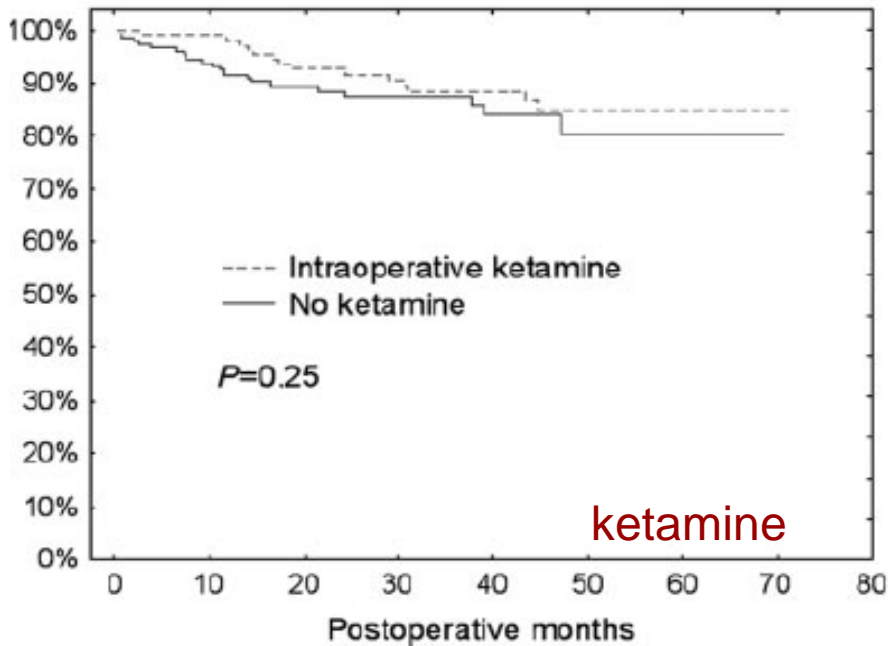
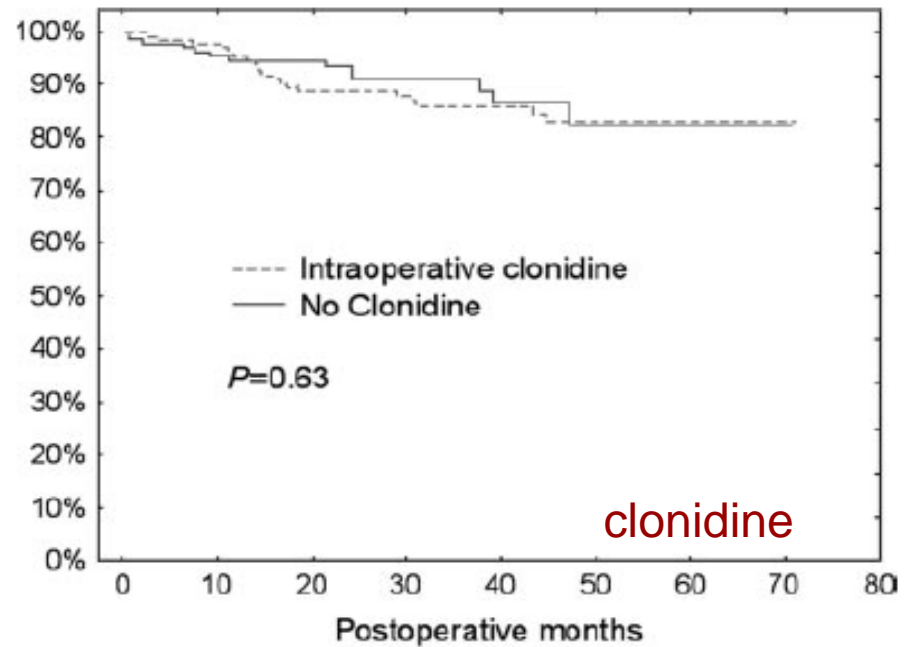
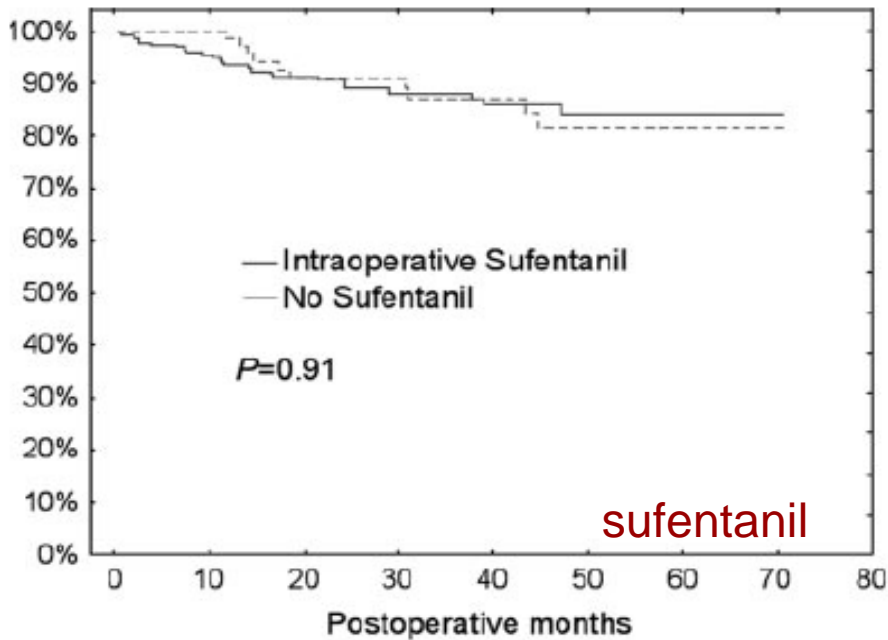
BACKGROUND: Whether intraoperative analgesics have an impact on postoperative cancer recurrence is unknown. Some investigations suggest that the opioids could favor relapse and that regional analgesia and nonsteroidal antiinflammatory drugs could improve cancer prognosis. We retrospectively reviewed our series of breast cancer surgery patients.

METHODS: This retrospective study included 327 consecutive women who underwent mastectomy with axillary dissection for breast cancer. The main objective was to compare the incidence of cancer recurrence among patients who received different analgesics during surgery.

RESULTS: Perioperative characteristics, cancer prognostic factors, and the length of surgery were comparable regardless of the analgesics administered. Univariate and multivariate analyses showed a lower cancer recurrence rate when ketorolac was given before surgery ($P = 0.019$). Other analgesics (sufentanil, ketamine, and clonidine) were not associated with a significant reduction in cancer recurrence rates in our series.

CONCLUSION: This retrospective analysis suggests that intraoperative administration of ketorolac decreases the risk of breast cancer relapse compared with other analgesics. (Anesth Analg 2010;110:1630–5)

Kaplan-Meier recurrence free survival



Resources

Personnel

- Medical oncologists
- Radiation oncologists
- Oncologic surgeons
- Bioinformatics team
- Internal medicine specialists
- Nutritionists
- Others (crowdsourcing platform)

Facilities

- Access to inpatient and outpatient facilities including surgical suites, chemo infusion suites, radiation equipment, etc

Prioritizing ideas

- Promising data weighted as follows: human phase II > phase I > case series > animal data
- Probability of producing a significant improvement in outcomes
- Credible mechanism of action
- Anticipated manageable toxicity
- Biomarkers for therapy personalization
- Low cost