Reviewer's report

Title: Evaluation of Corticosteroid-induced resistance to chemotherapy in surgical resections, xenografts and established cell lines of pancreatic cancer

Version: 1 Date: 17 November 2005

Reviewer: Margaret Briehl

Reviewer's report:

General
In this study, the authors address the question of whether dexamethasone (DEX) impacts the sensitivity of pancreatic cancer cells to gemcitabine or cisplatin. This is an important question because DEX is used in combination with these agents to prevent undesirable treatment side effects. The study provides the first evidence that DEX could actually be reducing the efficacy of treatment for pancreatic cancer. The evidence appears strong, since the experiments were conducted with 10 different pancreatic cancer cell lines, primary cultures of 20 pancreatic cancer specimens and xenografts of one pancreatic cell line. The conclusion that DEX induces therapy resistance in pancreatic carcinoma cells is supported by the data, particularly the results seen with primary tumor specimens and xenografts.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. The title should be revised to better convey the major finding from the study.
2. The inability to detect a correlation between induction of therapy resistance and patient age, gender, histology or TMN may be due to the sample size. Was a power analysis conducted to determine how many samples would need to be analyzed to detect a correlation?
3. The Methods section should include the source of the cell lines.
4. The statistical analyses description in the Methods section is difficult to follow. Was the value of 0 or 1 assigned depending on whether or not the DEX dose group was declared resistant? Is there a maximum score of 9 per time point because the effect of DEX alone (Drug 0 row in the example scheme) not included in the score? If yes, why is this row included in the sum column? What do the numbers in the 'Treatments' column signify?
5. The Results section (1st paragraph) states that 'the presence of DEX neutralized the cytotoxic effect in all cell lines (Fig 1B, 2B).' Based on this statement, one expects that the viability in the combined treatments would be the same as in the control. This is not the case for the majority of the cell lines. Indeed, the variation in the experiments makes it questionable whether the results with the combined treatments are statistically different than with the cytotoxic drug alone for many of the cell lines.

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions
Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests.