City of Hope

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International Society for the Study of Pleura and Peritoneum

QUALITY OF LIFE & SURGICAL PALLIATION

Combination of antiangiogenic antibiotic treatment inhibits the growth of Pseudomyxoma peritonei in vivo in a mouse model

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Disclosures

- Grant/Research Support from Bristol Myers Squibb, CAPNOMED GmbH, and Pierre Fabre
- Consultant for Gamida, LEO Pharm, and Roche.

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This presentation and/or comments will provide a balanced, non-promotional, and evidence-based approach to all diagnostic, therapeutic and/or research related content.

This presentation has been peer-reviewed and no conflicts were noted.

Origin of pseudomyxoma : Perforated appendix ?

Colon bacteria are associated with mucus In the peritoneum cavity

Peritoneal pseudomyxoma : bacteria

- Presence of bacteria have been reported on PMP, associated with the tumor tissue

Postoperative Peritonitis Without An Underlying Digestive Fistula After Complete Cytoreductive Surgery Plus HIPEC

Charles Honoré, Isabelle Sourrouille, Stéphanie Suria[1], Ludivine Chalumeau-Lemoine[2], Frédéric Dumont, Diane Goéré, Dominique Elias

7 cases reported after HIPEC : all cases are pseudomyxoma affected patient

Saudi J Gastroenterol 2013;19:271-7.

An old idea

- 2008

Annals of Surgical Oncology 15(5):1414-1423

Pseudomyxoma Peritonei: Is Disease Progression Related to Microbial Agents? A Study of Bacteria, MUC2 and MUC5AC Expression in Disseminated Peritoneal Adenomucinosis and Peritoneal Mucinous Carcinomatosis

Cristina Semino-Mora,[1] Hui Liu,[1] Thomas McAvoy,[1,2] Carol Nieroda,[1,3] Kimberley Studeman,[3] Armando Sardi,[3] and Andre Dubois[1]

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[3]Mercy Health Services, Baltimore, MD 21202, USA

2013 / Bethesda Maryland USA

Gilbreath *et al. Orphanet Journal of Rare Diseases* 2013, 8:105
http://www.ojrd.com/content/8/1/105

RESEARCH Open Access

A core microbiome associated with the peritoneal tumors of pseudomyxoma peritonei

Jeremy J Gilbreath[1], Cristina Semino-Mora[2], Christopher J Friedline[3], Hui Liu[2], Kip L Bodi[4], Thomas J McAvoy[5], Jennifer Francis[6], Carol Nieroda[6], Armando Sardi[6], Andre Dubois[2], David W Lazinski[7], Andrew Camilli[7,8], Traci L Testerman[9] and D Scott Merrell[1*]

Bacteria are associated with PMP tumors

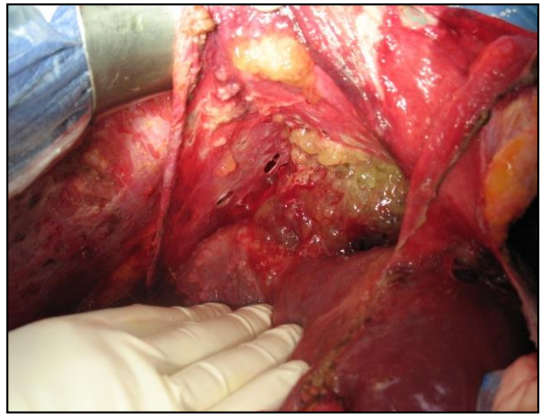
- Antibiotic as a pre operative and/or Post operative treatment could increase the prognosis ?

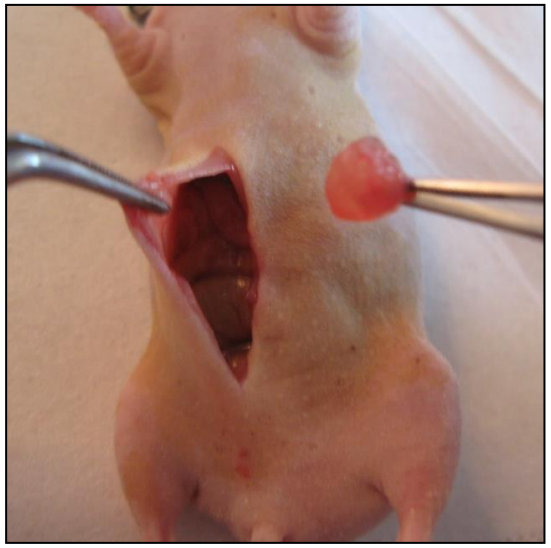
Pre- and post-operative antibiotics in conjunction with cytoreductive surgery and heated intraperitoneal chemotherapy (HIPEC) should be considered for pseudomyxoma peritonei (PMP) treatment

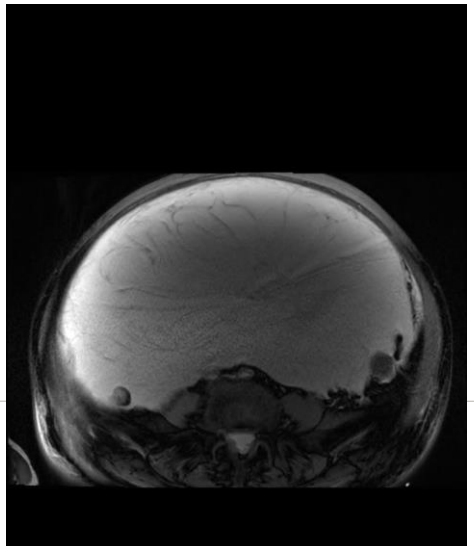
D. Scott Merrell [a, b, *], Thomas J. McAvoy [c, **], Mary Caitlin King [d], Michelle Sittig [d], Eugene V. Millar [e, f], Carol Nieroda [d], Jessica L. Metcalf [g], Faith C. Blum [a], Traci L. Testerman [h], Armando Sardi [d, ***]

Enrolled subjects were given lansoprazole, amoxicillin, and clarithromycin for 14 days, three weeks prior to CRS/HIPEC and a second course 2-3 months post-operatively.

A nude mice model of pseudomyxoma

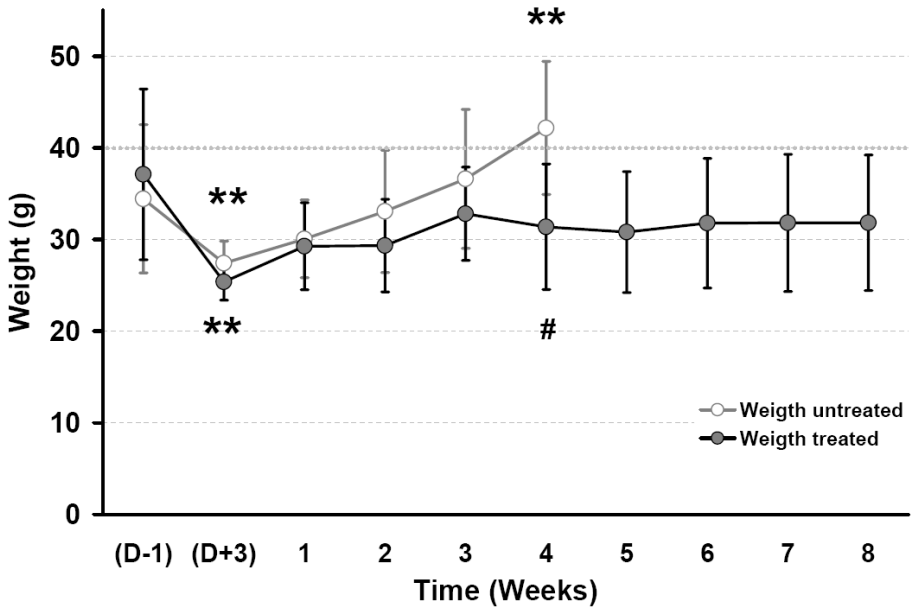




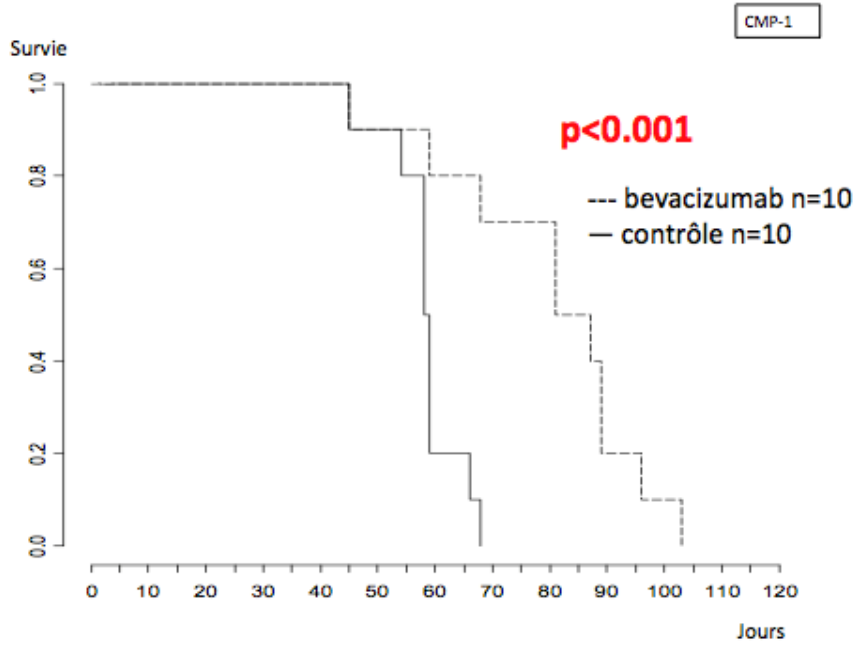


Mice model

Antiangiogenic drugs decrease PMP progression in a nude mice model



(** p < 0.01, vs D-1, # p < 0.05, bevacizumab treated vs untreated mice)



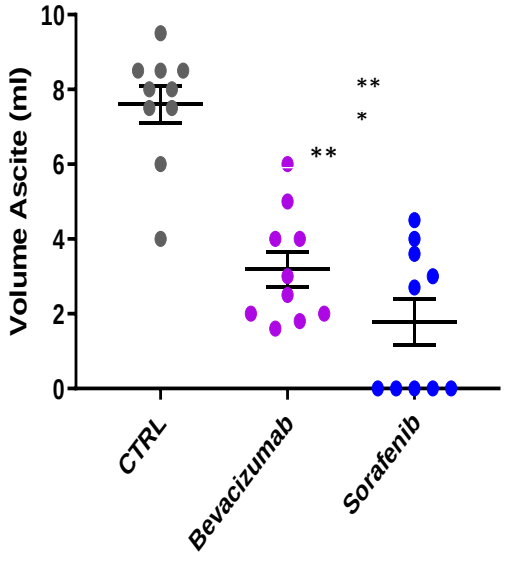
The American Journal of Pathology, Vol. 184, No. 7, July 2014

ANIMAL MODELS

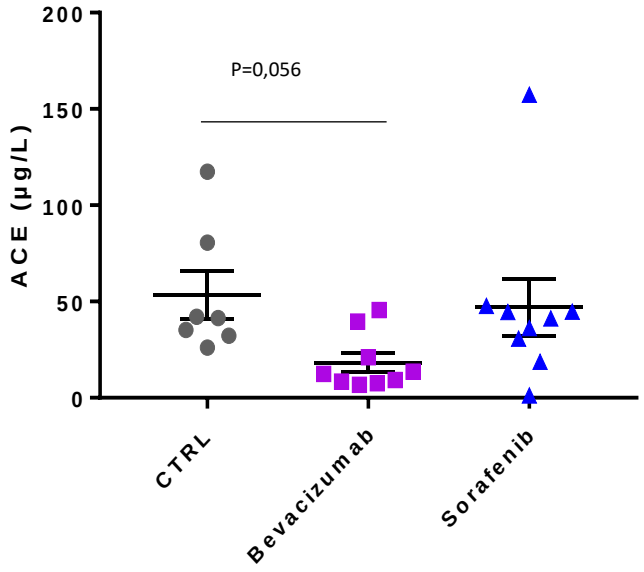
Orthotopic Animal Model of Pseudomyxoma Peritonei *An* in Vivo *Model to Test Anti-Angiogenic Drug Effects*

Anthony Dohan,*† Ruben Lousquy,* Clarisse Eveno,*‡ Diane Goere,§ Dong Broqueres-You,*¶ Rachid Kaci,*‖ Jacqueline Lehmann-Che,** Jean-Marie Launay,*†† Philippe Soyer,*† Philippe Bonnin,*‡‡ and Marc Pocard*‡

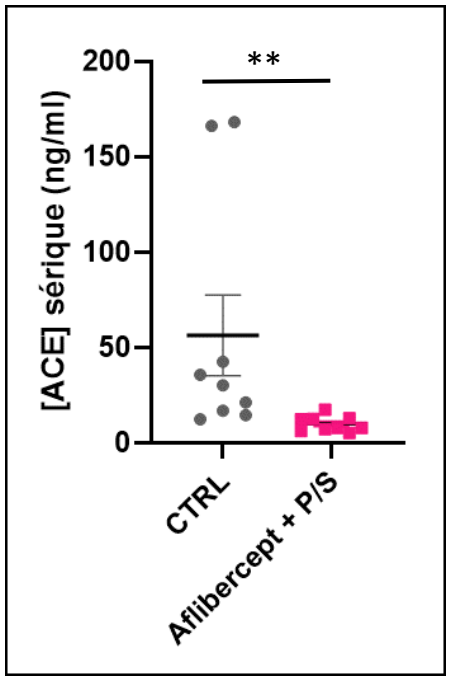
Different antiangiogenic drugs are efficient



Ascitis volumes

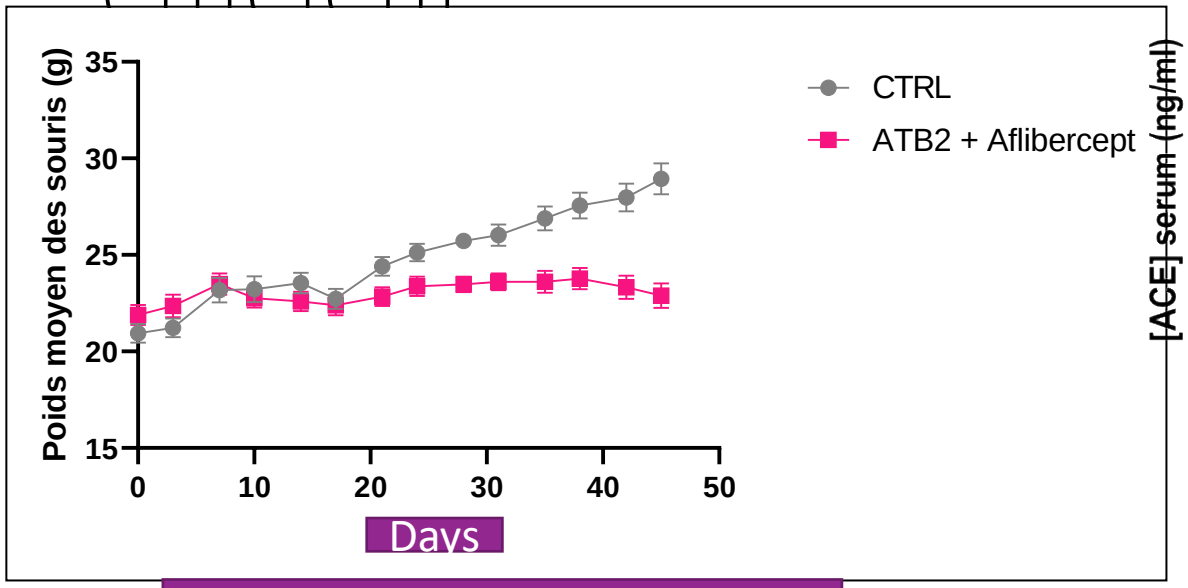


Blood CEA

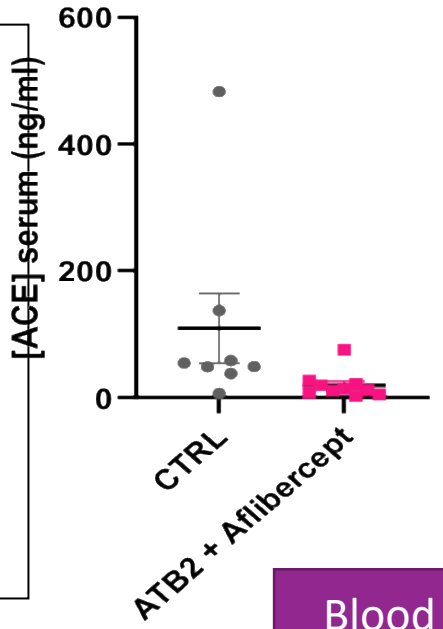


Blood CEA

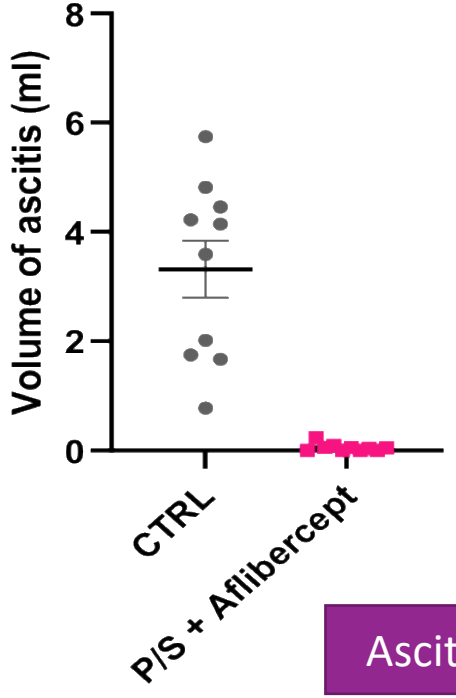
antiangiogenic drugs + antibiotic = are more efficient



Animal weights



Blood CEA



Ascitis volumes

We tested **Aflibercept** (25mg/kg 2 times a week) - **Penicillin/Streptomycin** (20mg/kg 5 times a week) combination drugs. Treatment began 6 days and 7 days respectively post-transplant and the experiment finished 41 days and 45 days respectively after transplantation.

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Conclusions: The anti-angiogenic antibiotic combination appears to be effective in inhibiting the growth of PMP *in vivo* in mice models. It could be used as non-chemotherapy treatment for patients who could not withstand heavy surgery.

Future : designs an observational study for non operated patients

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