The FDA Decision on Provenge: Who's Who, and Who's Connected

Dendreon Corp.

- Developer of Provenge, immunotherapy for prostate cancer
- At 36 months after treatment, 34% of patients in Provenge trial arm had survived, as compared to 11% in control arm
- FDA issued Complete Response Letter, denying approval of Provenge, 5/8/07
- Proceeding with 3rd Phase III trial of Provenge
- Similar product (Neuvenge) for breast & ovarian cancer shelved due to lack of funds
- On Reg SHO list for 200+ days

FDA

- Commissioner - **Andrew von Eschenbach**
  - His FDA to be *"Bridge, not Barrier"* to innovative treatments
  - Assisted Milken in starting up PCF

CBER

- Center for Biologics Evaluation & Research
- Chosen to review Provenge
- Ran 3/29/07 Advisory Committee mtg
  - Votes: 17-0 for Safety, 13-4 for Efficacy

CDER

- Center for Drug Evaluation & Research
- **Richard Pazdur**, Office of Oncology Drug Products
  - Cancer Drug Czar
  - Upset CBER was chosen to review Provenge
  - Has undercut applications for political reasons (ref. "Pazdur's Cancer Rules" WSJ 7/6/05)
  - Arranged for Scher & Hussain to sit on panel
  - Widely suspected of leaks to "The Cancer Letter"
  - Leaked info that ImClone's drug Erbitux was to be denied approval (Dec 2001)

Howard Scher

Memorial Sloan-Kettering

- Multiple undisclosed conflicts of interest
- Co-lead investigator for Novacea's Asentar Ph III trial
  - Asentar a direct competitor to Provenge
- Voted YES on safety, NO on efficacy of Provenge
- Sent letter to FDA urging non-approval
- Advisor/Board Member - Proquest Investments
- Quote from Novacea-sponsored meeting (Feb 2007): *"It may be time we focus less on statistical significance alone, and more on patient benefit"*

Maha Hussain

University of Michigan

- Multiple undisclosed conflicts of interest
- Receives grant money from Sanofi-Aventis
  - Maker of Taxotere (chemotherapy for P.C.)
- Investment in Sanofi-Aventis
- A regular on CDER (Pazdur's) advisory panels
- Voted YES on safety, NO on efficacy of Provenge
- Sent letter to FDA urging non-approval
- Stated, at Tarceva panel meeting (Sept 2005): *Even slight benefits* are significant in "a tough disease"*

  *Tarceva trial data suggested 13 day survival increase in advanced pancreatic cancer

National Cancer Institute

(NCI)

- von Eschenbach former NCI director
- NCI receives $$ from PCF
- FOIA request revealed Scher's letter to FDA was edited on an NCI computer

Michael Milken

Prostate Cancer Foundation (PCF)

- Milken an early investor in Proquest
- Pled guilty to insider trading and tax evasion in 1990 - lifetime ban from involvement in securities markets
- PCF a large donor to NCI, Sloan-Kettering, M.D. Anderson Center at Univ of Texas (von Eschenbach's and Pazdur's prior employer)
- Six PCF officers/members also sit on Proquest scientific advisory board

Novacea, Inc.

- Developing Asentar, a competitor to Provenge
- Signed $440M deal with Schering-Plough just three weeks after Provenge was derailed
- Asentar+Taxotere trial halted early Nov 2007 due to high death rate (Scher's trial)

Proquest Investments

- Venture Capital Fund specializing in cancer therapies
  - Large investments in Novacea
  - Held seat on Novacea Board of Directors until Schering Plough deal was done, then resigned
- Charter investor: Michael Milken ("Junk Bond King")
- Advisor/Board Member - Howard Scher