Objectives

- Describe treatment choices for men newly diagnosed with prostate cancer
- Identify the challenges for the patient and his partner in treatment decision making
- Provide evidence to support treatment decision making in prostate cancer
- Define an approach to assist men and their partners in making a treatment decision

Introduction

- In 1971, US government declares war on cancer. Great news for men with prostate cancer!!
- Prostate Serum Antigen (PSA) testing - most men can now be cured with surgery or radiation
- Modern surgery and radiation techniques - much less side effects than years ago
- Mortality rate from prostate cancer - declined more than 25 percent in the past decade

Questions???

- If you have prostate cancer
  - How dangerous it?
  - Do you need to be treated now or can you wait?
  - Is surgery or radiation the best way to go?
  - What about laparoscopic surgery?
  - If you opt for radiation, do you go with seeds or external beam radiation?

More Questions???

- Hormones needed?
- If yes, which drugs and when does one start?
- What about alternative or complementary medicine?
- Should experimental or clinical trials be considered?

Basic Facts

- In 2004, over 230,000 new cases were diagnosed
- 29, 900 men died of the disease
- Over a lifetime, prostate cancer estimated to affect 1 in 6 American men while breast cancer estimated to affect 1 in 8 women
- Most commonly diagnosed cancer in men (second only to skin cancer)
- Second cause of male cancer death (after lung cancer)
Surveillance Epidemiology and End Results (SEER)
- Cancer statistics published by the National Cancer Institute (NCI)
- NCI started collecting incidence and survival statistics on a few states in 1973
- Currently publishes incidence and survival data on 14 population cancer registries covering 26% United States population
- Publishes mortality data covering 100% United States population

Effect of Screening on Epidemiologic Data
- Increased incidence of prostate cancer
  - PSA widely available as screening tool since 1988
  - Early 1990s, transrectal ultrasound and spring loaded biopsy “gun” developed
- Screening common in United States but not so outside of the country
- Incidental or indolent cancers

Increases with age faster than any other cancer

Major Treatment Approaches
- Watchful Waiting
- Radical Prostatectomy
- External Beam Radiation
- Brachytherapy
Watchful Waiting (WW)

- Also called deferred therapy or expectant monitoring
  - Periodic PSA, free PSA testing, DRE with serial biopsies as needed
- Prostate cancer tumors grow very slowly
- How does one decide on WW
  - Life expectancy
  - Size and aggressiveness of cancer

Benefits and risks of watchful waiting

Benefits
- Avoid the complications of treating a cancer that poses little risk

Risks
- Cancer tends to be unpredictable
- Change in health could limit treatment options
- Anxiety of living with untreated cancer

Radical Prostatectomy

Brief history:
- 1904 - Dr Hugh Hampton Young, Father of American Urology performed first prostatectomy using the perineal approach
- 1945 - British surgeon Terence Millin pioneered new technique using vertical abdominal incision
- 1981 - Dutch urologist Pieter Donker identified cavernous nerves. Shared findings with Patrick Walsh at Johns Hopkins.
- 1982 - First nerve sparing surgery performed by Dr. Walsh
- 1997 - First nerve graft performed at Baylor College of Medicine - Surgeon, Peter Scardino.

Laparoscopic Surgery

Background
- Also called minimally invasive surgery
- In 1987, cholecystectomy performed laparoscopically in Lyon, France revolutionized this type of surgery
- In 1996, laparoscopic radical prostatectomy performed in a dog
- From 1998, two surgeons at the Institut Mutuel Montsouris in Paris have removed over 1000 prostates using this approach - Dr Guy Vallencien and Dr Bertrand Guillonneau

Laparoscopic Surgery

- A magnifying lighted robotically controlled scope inserted through the navel transmits a magnified image of surgical field
  - Twelve to fifteen fold magnification
  - Abdomen inflated with gas; microsurgical instruments threaded through four or five tiny incisions (1/4 to 1/2 inch long)
- DaVinci system - computer technology is used to translate and stabilize the surgeon’s hand and finger motions, allowing control of the instruments by remote

Benefits of Laparoscopic Surgery

- No incision
- Very little blood loss
- Shorter hospital stay
- Quicker recovery
- Less post operative pain
- Able to eat within hours of surgery
- Better bowel function
Disadvantages of Laparoscopic Surgery
- No long term follow up studies are available
- Inexperienced surgeons
- Long learning curve

Side Effects from Open and Laparoscopic Surgery
- Infertility
- Incontinence
- Erectile Dysfunction
- Loss of ejaculation
- Dysorgasmsia
- Change in penis morphology

Radiation Therapy
- First external beam therapy developed in 1940s - severe side effects
- Conventional radiation therapy - rectum, bladder, urethra in field. Dose usually insufficient (70 Gy)
- 3-D Conformal radiation therapy (late 1980s)
  - Computer program aided by CT scan or MRI measures the gland in three dimensions and computes the intended dose of radiation.
  - Higher doses of radiation can be delivered with less side effects

Intensity Modulated Radiation Therapy (IMRT)
- Builds on conformal beam radiation therapy, using computer software and hardware to deliver even more precise doses of radiation
- Radiation dose conforms to the 3-D shape of the tumor by modulating the intensity of the radiation beam to focus a higher dose on the tumor and a smaller dose to the surrounding tissue
- Higher doses of radiation can be delivered with less side effects

Brachytherapy
- Permanent implantation of radioactive iodine or palladium seeds
- Energy is time released over many months
- 145 Gray of brachytherapy with iodine seeds equivalent of 70 Gy delivered externally
- Appropriate only for men with low grade cancer, PSA <10 and small prostate.

Side Effects after Radiation
- Radiation Cystitis
- Hematuria
- Urinary Obstruction/Retention
  - Brachytherapy. Often prescribed alpha-blocking meds before and after implant
- Erectile Dysfunction
- Fatigue
- Bowel side effects
  - Proctitis
  - Fecal incontinence
  - Diarrhea
### Why are there few clear answers?

1. Staggering cost
   - Single trial comparing 4 major approaches would cost about $100 million
2. Large number of men required for results to be significant
3. SPIRIT Trial - surgical prostatectomy vs interstitial radiation intervention trial
4. Focus of National Institute of Health
   - Identify better ways to characterize cancer that needs treatment
   - New curative treatment for advanced cancer

### Decision Making:
**Key Factors to Consider**

- Aggressiveness of the cancer
- High risk vs low risk cancers
- Age and state of health
- Risk posed by cancer must be balanced against life expectancy
- Co-morbidities

### Medical Decision Making

“Deep in the Information Age, why is this still a do-it-yourself process?”

Payne, D. “I Shouldn’t Have Had to Beg for a Prognosis”. Newsweek Magazine, 8/22/2005

### Medical Decision Making

- Some patients embrace the blessing of being a modern patient including a superabundance of information
- Many find the situation lonely, frightening and overwhelming
- Patients now need to coordinate doctors, medical records, procedures, insurance companies

Hoffman, J. “Awash in information, patients face a lonely, uncertain road”. New York Times, 8/16/2005

### Treatment Decision Making

- Donna Berry, Nurse Researcher Seattle Cancer Care Alliance
- Sent 260 questionnaires packets
- Men in midst of making a decision
- Standard instruments for demographics, anxiety symptoms, activity level, decisional control, satisfaction and regret


### Findings

- N = 260
- 16 (6.2% men of color)
- Mean age of 63.24
- Education: associate or college degree (69.8%)
- 219 partnered or married (84.5%)
- Respondents had consulted at major centers of excellence in urology care

Influential People

- **Top four**
  - Second opinion doctor seen 65.8%
  - Spouse/Partner 48.1%
  - First doctor seen 35.2%
  - Friends 23.5%

*Percent that stated “a lot of influence”*

Berry, D. "Treatment Decisions for Men with Localized Prostate Cancer", Unpublished study, 2005

Information sources used after the options talk*

- **Top Four**
  - Friends
  - Internet
  - Books
  - Pamphlets

*used sometimes or often

Berry, D. "Treatment Decisions for Men with Localized Prostate Cancer", Unpublished study, 2005

Influential Outcomes*

- **Top four**
  - Longevity 67%
  - Urinary Function 50%
  - Sexual Function 33%
  - Recreational Activities 24%

*Percent that stated a lot of influence

Berry, D. "Treatment Decisions for Men with Localized Prostate Cancer", Unpublished study, 2005

Influence of “my age”

- 80 men stated “My age has nothing to do with my treatment decision”
- 191 stated that “my age” helped me toward or away from a certain treatment

Berry, D. "Treatment Decisions for Men with Localized Prostate Cancer", Unpublished study, 2005

Study Conclusions

- Accurate information communicated to patients is of primary importance
- Personal factors are at play in the treatment decision and associated outcomes
  - Age
  - Anxiety
  - Intimate relationships
  - Shared decision control
  - Use of the Internet

Berry, D. "Treatment Decisions for Men with Localized Prostate Cancer", Unpublished study, 2005

Information and decision preferences

- **Purpose**: identify and compare information and decision preferences of men with prostate cancer and their partners at time of diagnosis
- **Sample size**: 80 couples
- **Questionnaires**
  - Control preference scale
  - Information survey questionnaire

Results

- 50% men wanted to play active role in decision making
- 42.5% men – collaborative role
- 7.5% men – passive role


Major influences in decision making

- Prognosis
- Stage of disease
- Treatment options
- Side effects of treatment


Information Sources

- Friends or relative 60.0%
- Someone with prostate cancer 53.8%
- Pamphlets in MD office 53.8%
- Physicians 46.3%
- Internet 46.3%
- Newspaper Articles 21.3%


Study Conclusions

- Men – ranked sexuality more important than partners
- Partners – ranked information on self care higher than men
- Men with family history and sons attached high importance to risk communication and preventive health strategies


Married Couples

- Part of a larger study looking at identifying attributes of quality of life following treatment for metastatic prostate cancer
- 7 couples (age range 61 to 75)
  - 15 focus groups with men
  - 2 focus groups with wives


Differing points of view

- Men
  - Threat to survival
  - Distressing physical complications
  - Threat to self image, masculinity
- Women
  - Imminent widowhood
  - Significant changes to quality of life that they share with spouse
  - Sexual dysfunction

Conclusion

- Importance of wife in decision making:
  - Older men prefer women in their lives to collect health information and schedule appointments.
  - Wives encourage positive health behaviors such as check ups, screening.
  - Married men are more likely to be diagnosed with localized prostate cancer vs metastatic disease and to live longer.

Boehmer, U. and Clark, J. “Married Couples Perspectives on Prostate Cancer Diagnosis and Treatment Decision Making”, Psycho-Oncology, 10:147-155. 2001

Facilitating treatment decision making

- Sample size: 74 couples
- Mean age of men: 62
- Mean age of partners: 58.1
- Over 50% had high school diploma
- One same sex couple only


Instruments

- Patient Information Program:
  - Computer program developed to measure information and decision preferences of men with prostate cancer and their partners.
- Spielberger State Anxiety Inventory
- Center for Epidemiologic Studies Depression Scale


Procedure

- One arm quasi experimental, pre test and post test design
- Interviews completed at time of diagnosis and again at 4 months


Preferred and Assumed Roles in Decision Making

- Patients with physicians:
  - Majority had preference to play either an active or collaborative role.
- Patients with partners:
  - 54% wanted to share decision making with partners.
- Partners with patients:
  - 55% partners wanted to play a collaborative role.


Anxiety

- Partner’s level of anxiety higher than other women in general population:
  - Concerned about helping their husbands after surgery.
  - Fear of recurrence.
  - Side effects of treatment.

Study Summary

- Assisting men and their partners identify and discuss information that they consider important is beneficial.


Asking Men What’s Important

Study Objective: Identify what factors men consider important when choosing treatment for prostate cancer.

Participants: 102 men with newly diagnosed localized prostate cancer identified from urology practice groups.

Measurements: Open ended questions via one on one interviews after they made a treatment decision but before the actual treatment.


Demographic Characteristics

- Mean Age: 66
- White: 89%
- Married: 85%
- Education completed:
  - High school or less: 32%
  - College degree: 39%
  - Advanced degree: 29%


Treatments Selected (N= 102)

- Radical prostatectomy: 20 (20%)
- Brachytherapy: 52 (51%)
- External beam radiation: 15 (15%)
- Watchful waiting: 12 (12%)
- Hormones: 3 (3%)


Likes and dislikes of radical prostatectomy (N= 94)

- Likes
  - Removal of tumor (16%)
  - Strong evidence (14%)
- Dislikes
  - Incontinence (49%)
  - Impotence (38%)
  - Invasive (31%)


Likes and dislikes of external beam radiation (n=82)

- Likes
  - Strong evidence (7%)
  - Noninvasive (5%)
- Dislikes
  - Long duration of treatment (35%)
  - Lack of precision in targeting the tumor (27%)
Likes and dislikes of brachytherapy (n=95)

- **Likes**
  - Short duration of treatment (26%)
  - Noninvasive (25%)
  - Focused targeting of treatment (23%)

- **Dislikes**
  - Weak evidence (17%)


How men chose their treatment (n = 102)

- Physician recommendation 31%
- Evidence/track record 27%
- Likelihood of side effects 12%
- Intrinsic characteristics 39%
- Patient centered factors 12%
- Economic concerns 5%


Changing face of treatment

- **Purpose:** Characterize temporal trends in clinical presentation and primary disease management among patients with low-risk prostate cancer
- **Methods:** Database developed from 30 academic and community based urology practices across the United States (5,343 men met criteria)


Results

- The proportion of men with low-risk tumor characteristics rose from 29.8% in the years 1989 to 1992 to 45.3% in the years 1999-2001
- Over treatment seen as a major problem in older adults


Significant management shifts

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<thead>
<tr>
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<tbody>
<tr>
<td>Brachytherapy</td>
<td>3.1%</td>
<td>12.0%</td>
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<tr>
<td>Androgen Deprivation</td>
<td>3.1%</td>
<td>21.7%</td>
</tr>
<tr>
<td>Radical Prostatectomy</td>
<td>63.8%</td>
<td>51.6%</td>
</tr>
<tr>
<td>External Beam Radiation</td>
<td>16.1%</td>
<td>6.8%</td>
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Conclusion

- As a result of patient education and screening, low risk features characterize a growing proportion of newly diagnosed prostate cancers
- Patients of higher socioeconomic status and with fee for service insurance more likely to undergo surgery
- A significant number of low-risk prostate cancer patients are possibly being over treated

Future Research
- Research studies needed on African Americans, Asian Americans and other minorities regarding making a treatment decision
- Gay men and treatment decisions
- Role of the nurse in treatment decision making

So how can we help men decide on the best treatment?

Clinical parameters
- PSA
- Gleason score
- Clinical stage

Prostate Specific Antigen (PSA)

Prostate Cancer Staging
- **Stage T1**
  - discovered by TURP or elevated PSA
- **Stage T2**
  - palpable and confined to prostate and can be detected by DRE or ultrasound.
- **Stage T3**
  - extracapsular extension or to the seminal vesicles.
- **Stage T4**
  - spread to organs near the prostate, bladder, EUS, Rectum, Pelvic side wall

Gleason Grading System

Image Not Available
Personal parameters
- Age
- Ethnicity
- General health (co-morbidities)
- Values, attitudes and beliefs
  - Family history
  - Anecdotes from friends, family members

Examples of Risk Groups in Prostate Cancer
- Low
  - T2a or less, Gleason 6 or less, PSA < 10
- Intermediate
  - T2b or less, Gleason 6 or less and PSA 10 to 20
  - Gleason 7 and PSA < 10
- High
  - Gleason 8 or higher or PSA >20

Overview of anatomy

Active surveillance

Deferred Therapy (watchful waiting)
- Advantages
  - Avoids (or postpones) side effects of therapy
  - Retains quality of life
  - Maintains normal activities and work schedule
  - Minimizes over treatment of indolent cancers

- Disadvantages
  - Risks under treatment – actual extent of cancer difficult to document
  - Cancer may progress and become incurable before it is treated
  - Later treatment of more advanced cancer may entail greater morbidity
  - Increases anxiety of living with untreated cancer
  - Requires frequent assessment, repeat biopsies
  - Uncertain long-term (> 10 yrs) natural history of cancer

Radical Prostatectomy
Laparoscopic Radical Prostatectomy

Advantages
- Confidence in long term cure
- Easy to detect and treat recurrences
- Accurate prediction of prognosis based on pathologic features
- Low morbidity with anatomic technique
- Incontinence, erectile dysfunction treatable

Disadvantages
- Acute morbidity, rare mortality
- Hospitalization, time lost from work
- Visible incision, delayed morbidity (hernia)
- Technically challenging: temporary (or permanent) urinary and sexual dysfunction, incomplete resection (positive margins)

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External Beam Radiotherapy

Advantages
- Ease of outpatient administration
- Avoidance of anaesthetic/surgery
- No immediate incontinence/ED
- Maintenance of work schedule

Disadvantages
- Long course of therapy
- Difficulty targeting prostate precisely
- May require androgen deprivation therapy for advanced or high risk CA, increasing risk of ED
- Uncertainty of complete eradication/staging – no pathology
- Uncertain long term cancer control (>10 years)
Brachytherapy

Advantages
- Convenient, logistically simple
- No immediate incontinence/ED
- Little time lost from normal activities

Disadvantages
- Results depend on dose and vary with quality of implant quality of implant
- Applicable only to most favorable cancers
- Requires neoadjuvant androgen deprivation for large glands
- Recurrence is hard to detect and salvage therapy is risky
- No pathologic stage information
- Requires anesthesia
- Symptomatic urethritis is common; some risk of urinary retention (TURP may lead to incontinence)
- Higher risk of long-term ED than external beam radiation

Cryosurgery

Benefits of Cryotherapy
- Minimally invasive:
  - less morbidity
  - quick recovery
  - minimal pain and discomfort
- Equal or more effective than other modalities
- No radiation
- Repeatable in the case of local recurrence
- New generation probes shorten the learning curve to avoid major complications
So what’s a man to do?
- Difficult decision
- More information — confusion
- Can take time to decide
- Role of education material
- Support groups

Role of nursing
- Specialized role in treatment decision making
- Aware of resources
- Available for consults

Questions or comments?