Disclosures

- No conflicts of interest to report

Objectives

- Review some common oncologic diagnoses that present in primary care
- Review the current screening guidelines
- Review risk factors
A 40 y.o. female presents to your office for her yearly physical exam. As part of your visit you discuss the possibility of getting a mammogram. During your discussion of her possible risk factors, she asks you what kinds of things she can do to decrease her risk of getting breast cancer.

Breast Cancer

- Risk factors for the general population:
  - family history of breast cancer
  - older age
  - benign breast biopsy conditions (atypical ductal hyperplasia, lobular carcinoma in situ)
  - early menarche
  - nulliparity/late first birth
  - late menopause
  - radiation exposure (e.g. Hodgkin lymphoma)
  - Alcohol use (2-5 drinks per day)

Breast Cancer

- The Women's Health Initiative showed that limiting exogenous estrogen combined with progestin is the best method to reduce breast cancer in post-menopausal women
- Caffeine intake and miscarriages/induced abortions do not increase risk
- Regular exercise has been shown to decrease risk
- Increasing parity is associated with decreased risk
Breast Cancer

- Testing for BRCA1 and BRCA2 gene mutations is recommended in patients with personal or family history suggestive of genetic breast cancer or ovarian cancer and if the findings will help to make the diagnosis or influence management.

Screening Guidelines

- American cancer Society
  - 40-44yrs: optional
  - 45-55yrs: yearly
  - >55yrs: every 2 yrs or can continue yearly
  - Screening can continue as long as the woman is in good health and has is expected to live 10 yrs or longer

- United States Preventive Services Task Force (USPSTF)
  - 40-49yrs: individual decision. Women who place a higher value on the potential benefit than the potential harms may choose to begin biennial screening between the ages of 40 and 49 years.
  - 50-74yrs: every two years.
  - ≥75yrs: the current evidence is insufficient to assess the balance of benefits and harms of screening mammography in women aged 75 years or older.
A 19 y.o. sexually active female presents to your office for her initial Pap smear. You counsel her on the meaning of cervical cancer, risk factors and general safe sex practices.
A 45 y.o. male presents to your office for his yearly physical exam. He has a PMHx of obesity (BMI=38), ulcerative colitis, smoking, hyperlipidemia, and he drinks 4 beers every night. His father had colon cancer diagnosed when he was 52 y.o. You recommend he undergo colon cancer screening.

Colon Cancer

Fourth most common malignancy in the U.S., behind lung, prostate, and breast
Second leading cause of cancer-related death in the U.S.

Colon Cancer

Risk factors:
- Age >50 yrs.
- Obesity (BMI ≥ 35.0 kg/m²)
- Family history of colon cancer
- Personal history of inflammatory bowel disease
- Personal history, or first degree relative with history, of adenomatous, villous, or tubulovillous polyps
- Diabetes
- Tobacco use
- Alcohol use
Colon Cancer

- There has not been enough good evidence to recommend increasing fiber or decreasing red meat and fat in diet
- Calcium, vit. D, antioxidants, statins, and hormone use in women have not had enough evidence to recommend use
- Although ASA and NSAIDs appear to be effective in reducing risk of developing adenomatous polyps and colorectal cancer, the potential risks of GI bleeding, renal impairment and increased risk of cardiovascular disease prevent routine recommendation

Screening Guidelines

American Cancer Society

- Starting at age 50:
  - Flexible sigmoidoscopy every 5 years
  - Colonoscopy every 10 years
  - Double-contrast barium enema every 5 years
  - CT colonography (virtual colonoscopy) every 5 years

Alternatively:

- Yearly guaiac-based fecal occult blood test (gFOBT)
- Yearly fecal immunochemical test (FIT)
- Stool DNA test (sDNA) every 3 years
Screening Guidelines

- **USPSTF**
  - 50-75 yrs: fecal occult blood testing, sigmoidoscopy, colonoscopy
    - the evidence is insufficient to assess the benefits and harms of CT colonography and fecal DNA testing as screening modalities for colorectal cancer
  - 76-85 yrs: recommend against routine screening
  - >85 yrs: recommend against screening

Screening Guidelines

- **USPSTF – Draft of 2016 guidelines**
  - 50-75 yrs: the risks and benefits of different screening methods vary.
  - 76-85 yrs: the decision to screen for colorectal cancer in adults ages 76 to 85 years should be an individual one, taking into account the patient’s overall health and prior screening history.

A 45 y.o. male presents to your office for his yearly physical exam. He has a PMHx of obesity (BMI=38), ulcerative colitis, smoking, hyperlipidemia, and he drinks 4 beers every night. His father had colon cancer diagnosed when he was 52 y.o. You recommend he undergo colon cancer screening.
A 60 y.o. obese woman with PMHx of breast cancer presents to your office with recent symptoms of abdominal bloating and urinary urgency. She has a sister who has been treated for ovarian cancer. Upon physical exam you note an abdominal mass in her left lower quadrant.

Ovarian Cancer

- **Risk factors:**
  - Older age (median age at onset is 61 yrs., rarely occurs in women less than 40 yrs.)
  - Having the BRCA1 or BRCA2 gene mutation
  - Family history of ovarian cancer
  - Personal history of breast cancer
  - Obesity
  - Not breastfeeding
  - Infertility
  - Giving birth to no or few children

- **Factors that lower risk:**
  - Parity (30-45% risk reduction, with another 10-15% with each additional birth)
  - Oral contraceptive use (30-60% reduction)
  - Tubal ligation
  - Hysterectomy

- Pelvic US is cost-effective, does not have the radiation exposure of CT, and many gynecologists can perform it in their office.
Table 1

Women Who Should Be Offered Testing and Genetic Counseling for BRCA1 and BRCA2 Mutations

Ashkenazi Jewish women with:
- One first-degree relative with breast or ovarian cancer
- Two second-degree relatives on the same side of the family with breast or ovarian cancer

All other women with:
- Two first-degree relatives with breast cancer, one of whom was diagnosed by 50 years of age
- Three or more first- or second-degree relatives with breast cancer
- A combination of breast and ovarian cancers among first- and second-degree relatives
- One first-degree relative with bilateral breast cancer
- Two or more first- or second-degree relatives with ovarian cancer
- One first- or second-degree relative with both breast and ovarian cancers
- Breast cancer in a male relative

From American Family Physician; 2009 Sep 15; 80(9)

A 60 y.o. obese woman with PMHx of breast cancer presents to your office with recent symptoms of abdominal bloating and urinary urgency. She has a sister who has been treated for ovarian cancer. Upon physical exam you note an abdominal mass in her left lower quadrant.

An 80 y.o. male presents to your office with an elevated PSA level (5.5 ng/ml) that he received while at a neighborhood health fair. He denies any urinary symptoms, bone pain or unexplained weight loss. He has a PMHx of hypertension, hyperlipidemia and osteoarthritis. His physical exam is unremarkable and his vital signs are within normal range.
Screening Guidelines

- American Cancer Society: “discussion” should take place starting at:
  - age 50 for average risk and with life expectancy >10 yrs
  - age 45 for high risk - African Americans or having a first degree relative with prostate cancer at an early age (<65 y.o.)
  - age 40 for highest risk – having >1 first degree relative with prostate cancer at an early age

Screening Guidelines

- American Cancer Society
  - If no cancer is found and PSA is <2.5 ng/ml, then re-test every 2 yrs.
  - If no cancer is found and PSA is >2.5 ng/ml, then re-test yearly

Screening Guidelines

- American Urological Association
  - Recommends against PSA screening under 40 y.o.
  - Does not recommend routine screening between ages 40-54 yrs. for those at average risk.
  - For higher risk pts. younger than 55yrs (African American, positive family history), decisions regarding screening should be individualized
Screening Guidelines

- American Urological Association
  - For men ages 55-69 yrs. – shared decision making involving weighing the risks and benefits of screening and treatment.
  - To reduce the harms of screening, a routine screening interval of 2 yrs. or more may be preferred over annual screening.

Screening Guidelines

- American Urological Association
  - No routine PSA screening in men aged 70 or older, or in any man with a life expectancy less than 10-15 yrs.

Screening Guidelines

- USPSTF: don’t do it!
Prostate Cancer

- Most common cancer in men
- Second most common cause of cancer-related deaths in men, after lung cancer
- Vasectomy does not increase risk
- Transrectal prostate biopsy is the definitive diagnostic study

Prostate Cancer

- Risk factors:
  - Increasing age
  - Race (highest in blacks, second highest in whites, and lowest in Asian Americans)
  - Family history (twofold higher risk if a first degree relative has prostate cancer)
  - History of prostatitis has a modest increase in risk

A 67 y.o. fair-skinned woman presents to your office for a blood pressure check. While performing the blood pressure, you notice an abnormal looking lesion on her upper arm. She states that it appeared there within the last year. She relates a history of considerable sun exposure and burns when she was a teenager and young woman.
Cutaneous Malignant Melanoma

- Risk factors: fair-skin, UV radiation damage and genetic susceptibility
- ABCDE – Asymmetry, Border, Color, Diameter, Evolving
- “Ugly duckling sign” – the melanoma will look different from the surrounding moles
- Dermoscopy increases the accuracy of a dermatologist in diagnosing melanoma by 10-27%

A 16 y.o. male with no medical problems presents for his sports physical. You spend some time reviewing preventive medicine with him.
Testicular Cancer

- Most common cancer in males ages 15-34 yrs., but is relatively rare (annually, only 5.4 cases per 100,000 males)
- Because of the high success rate of treatment even in cases of advanced disease, the benefits of screening are small to none
- Initial test: scrotal ultrasonography

Risk factors:
- Cryptorchidism (i.e., undescended testicles)
- Family history of testicular cancer
- Infertility
- Smoking
- Presence of Klinefelter’s syndrome
- White race.

Sources
- Cervical Cancer Screening Guidelines. Centers for Disease Control (CDC.gov)
- Shaw J. Diagnosis and Treatment of Testicular Cancer. Am Fam Physician. 2008 Feb 15;77(4):469-474
- American Cancer Society Guidelines for the Early Detection of Cancer
- U.S. Preventive Task Force for Cancer Screening
- American College of Physicians. MKSAP 15 Hematology and Oncology