

**Overdiagnosis & Overtreatment**  
**in**  
**Obsterics & Gynecology**

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## **Do you think the diseases have increased nowadays?**

- In fact, it may not have increased so much, but the concepts are changing ever
- One of the most important concept is our “increase in awareness”
- This leads us to beneficial treatments and therapies, early action taking against medical problems
- But, at the same time, leads us to unneceassary check-ups, screenings and as a result of this, unnecessary and invasive procedures.

**Over time,  
the possibility of diagnosing diseases has increased.**

- Very sensitive biochemical tests, and much more advanced imaging tools are developed
- Now we have become very skillfull to diagnose even in the beginning stages of many diseases
- Even before going sick, going a little further, there were developments that showed the likelihood of being sick.

- Hyper-sensitive (very high-precision) tests and diagnostic tools have begun to be used and are becoming increasingly common.

- People are looking for check-ups almost every few months
- People are looking for the detailed blood tests to say "Do I have cancer"?
- People are looking for unnecessary surgeries due to a small mass appearance
- So, many people who are not actually sick may be subject to the complications of unnecessary treatments?

- Of course, we can not ignore the **opportunistic Medical Industry**
- Which is trying to provide benefits over human health
- But most importantly, we all have a "**fear of being late**" which is pretty well used by the industry..

- **This is why there is now a concept called Overdiagnosis..**
- **Leading to Overtreatment..**
- **I understand this as "more aggressive treatment than necessary"**

The flowchart below explains everything..



## Diagnosis

Screened	Screening Test Result	Potential Point Of View Of Patient	Potential Effect on Physician
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# **We may be healthier..**

- But we are increasingly being told we are sick
- We are labeled with diagnoses that may not mean anything to our health
- People used to go to the doctor when they were sick, and diagnoses were based on symptoms
- But today, diagnoses are increasingly made on the basis of detected abnormalities in people who have no symptoms and might never have developed them
- Overdiagnosis constitutes one of the biggest problems in modern medicine.

# Screening is not the same as preventative medicine

- But the same rules apply
- Our patients have the right to be told the harms as well as the benefits of mammography and deserve our support when they have made up their minds.

- For every 2000 women screened for 10 years, 1 death will be avoided
- The percentage of women surviving a decade if not screened is 90.2% compared with 90.25% if they are screened.

# What Is Overdiagnosis?

- A false positive test result means the test comes back positive, even when the disease doesn't really exist
- It's a function of the test itself, and every test has a specified false positive rate.

# Misdiagnosis

- Misdiagnosis on the other hand, means somebody made a mistake
- Overdiagnosis means making a real diagnosis that needn't be diagnosed.

# Overdiagnosis is not the same as a misdiagnosis

- Which implies that the pathologist made a mistake looking at the specimen under a microscope
- Overdiagnosis of cancer suggests that the cancer exists, but that it could be argued that it is clinically irrelevant, that if left untreated, it would either regress spontaneously or the patient would die of something else before the cancer caused death
- The authors of the study define “overdiagnosis” as “the diagnosis of a ‘cancer’ that would otherwise not go on to cause symptoms or death.”

# How these overdiagnoses can harm patients and reduce quality of life?

- By leading to medically unnecessary procedures,
  - such as radical surgery
  - treatments known to predispose to future cancers
  - such as chemotherapy and radiation
- The authors conclude, “Whereas early detection may well help some, it undoubtedly hurts others.”



## Seeing or detecting too much:

- New technology allows us to detect abnormalities that would never have caused harm
- We've changed the diagnostic thresholds for many diseases, so that **pregnants** who were previously classified as normal are now **diagnosed with diabetes**
- Dropping the threshold of fasting blood sugar and oral glucose tolerance test instantly created millions new diabetics pregnant, who were less likely to develop symptoms and complications and were less likely to benefit from treatment.

# Menopausal Osteoporosis

- The numbers for treatment of decreased bone density:
  - **Winners** (treatment saved them from a fracture): 5%
  - **Treated for naught** (had a fracture anyway, despite treatment): 44%
  - **Losers** (treated but never would have had a fracture without treatment): 51%

# Breast cancer

- For every death prevented by mammography, 2 to 10 women are overdiagnosed and treated unnecessarily
- 5 to 15 are diagnosed earlier without any effect on final outcome
- 250-500 will have a false alarm and half of these will be biopsied
- 999 out of 1000 women do not benefit from mammography.

# Breast cancer

- A study in Norway showed that screening resulted in 22% *more* diagnoses of invasive cancer; apparently some invasive breast cancers in the unscreened group had spontaneously regressed.
- A study published in the *Journal of the National Cancer Institute* estimates that 25% of breast cancers detected on mammogram, are “overdiagnosed.”

# Gynecological Cancers

- The US Preventive Services Task Force (USPSTF) notices on screening for cancer, since it increases the diagnosis rate without affecting the death rate, and increases morbidity from unnecessary surgery and other treatments.
- There is overdiagnosis of cervical cancer
- There is overdiagnosis of precancerous abnormalities.

# Endometrial hyperplasia

- Pathologists are particularly likely to overdiagnose endometrial hyperplasia which is referred to as simple hyperplasia without atypia
- The problem of frequent overdiagnosis is compounded when gynecologists recommend hysterectomy for patients diagnosed with simple hyperplasia without atypia rather than the more standard options of observation with risk factor reduction or hormonal therapy.

# Endometrial hyperplasia

- Gynecologists see the word “hyperplasia” in the diagnosis line of the pathology report, and their reaction is hysterectomy, despite the absence of atypia
- **This toxic combination of overdiagnosis by the pathologist and overtreatment by the gynecologist results in many patients undergoing needless hysterectomy, whereas other patients who have been overdiagnosed are subjected to unnecessary hormonal therapy and follow-up biopsies.**

# Genetic screening

- These tests are not done for symptoms, and do not even detect signs of early disease, but just estimate future risks using inadequate data
- Researches remind us that genetics is not destiny and abnormal genes do not equal disease
- The predictive value of these tests is small, and we seldom know what to do about the risk after we identify it
- Low risk for a condition doesn't mean you can't get it, and everyone is at high risk of something.



# The HPV test

- Comparing test sensitivity (in terms of prevented cancers) and overdiagnosis (in terms of non-progressive pre-invasive lesions) between the human papillomavirus test (HPV test), and the traditional Pap test in routine screening for cervical cancer
- Sensitivity of HPV testing was similar to that of Pap testing but caused more overdiagnosis.

# Routine electronic fetal monitoring

- Has minuscule benefits and results in many more C-sections.

# A paradigm shift is needed

- But it will be difficult to achieve for many reasons:
  - It is hard to ignore information
  - Most people believe the more information, the better
  - Accepted wisdom and common sense are hard to overturn
  - Most people are convinced that it is *always* in people's interest to detect health problems early, even though the data say otherwise.
  - There is a common belief that early detection is cost-effective, even though the data show it actually ends up costing more
  - We find it hard to tolerate uncertainty
  - Commercial interests benefit from screening and overdiagnosis
  - Doctors fear being sued if they omit tests
  - Anecdotes about lives saved are emotionally persuasive.

- We are easily impressed by anecdotes from people who believe their lives were saved by early detection;
- But we don't hear anecdotes from people who were harmed by a diagnosis of a condition that would never have hurt them, mainly because we have no way of knowing which ones they were.

# What's the solution?

- Maintaining a healthy skepticism about early diagnosis
- Informed consent for screening tests, based on accurate information
- Resisting over-simplified hype about the benefits of screening
- Putting our efforts into prevention (exercise, smoking cessation, healthy diet, etc.) rather than pursuing early detection
- Pursuing health without paying too much attention to it and without developing anxieties about it.

# The good news

- We are learning that many, perhaps most, small cancers either regress or never progress
- Spontaneous remissions may be far more common than we ever imagined.
- In one study, 14% of cancers got smaller without any treatment
- So we don't really need to know if any cancer is present.

# The bad news

- And so far we have no way of distinguishing which these are.

**Keeping in mind the Hippocratic Oath:**

**“First, do no harm,”**



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