Non-Opioids Treatment For Pain
Presented By: Ashraf Al-Qaisi
Objectives:

- Learn about Pharmacological Non-Opioid drugs used to treat pain

- Detail Why Opioid analgesics are important in the care of patients with acute pain, but remain controversial for treatment of chronic pain!

- If they are this bad then why do we use them? Is there a better alternative?
Opioids are not always the right answer, Why?

Because: According to the WHO analgesics ladder their use should be more directed towards managing Moderate to Sever Pain.
**Paracetamol:**

**Medical use:** used to treat pain and fever. Typically used for mild to moderate pain relief.

An analgesic and antipyretic with little anti-inflammatory action. Inhibits prostaglandin synthesis, mainly in the CNS.

Paracetamol hepatotoxicity is by far the most common cause of acute liver failure in both the United States and the United Kingdom. Recommended maximum daily dose of paracetamol for healthy adults is 3 or 4 grams.

Additionally, paracetamol does not affect the closure of the fetal ductus arteriosus as NSAIDs can.
**NSAIDS:**

**Medical use:** In general, they are considered the cornerstone for pain relief when it comes to sports-related injuries (Strains and Sprains etc.)

are often used alone or in combination with opioids, particularly where there is inflammatory or bone pain.

A wide range of both non-specific and COX-2 inhibitors are available; the latter are preferable for long-term use in vulnerable groups, for example the elderly and those on steroids.
Ketorolac:

• A non-specific COX inhibitor, with predominantly analgesic activity, given orally, IM or IV.

• Ketorolac is used for short-term management of moderate to severe pain.

• Effective after orthopedic surgery, has opioid-sparing effects after abdominal surgery.

• No effect on ventilation or cardiovascular function.

• Not subject to the Misuse of Drugs Regulations. As well as the usual contraindications to the use of NSAIDs, ketorolac should be avoided when excessive blood loss is anticipated, or when patients are receiving other NSAIDs or anticoagulants, including low-dose heparin.
**Diclofenac:**

Also known as “Voltaren”. used to treat pain and inflammatory diseases such as gout. and joint stiffness caused by arthritis.

Diclofenac is often used to treat chronic pain associated with cancer. Especially if inflammation is present.

Mechanism of Action: Inhibition of prostaglandin synthesis by inhibition of COX-2

Contraindications: patients with severe or active bleeding, lead to onset of new hypertension or worsening of pre-existing hypertension. Heart Failure. Third-trimester pregnancy. Serious skin adverse events
Adjuvants

1. Antidepressants
2. Anticonvulsants
3. Local anesthetics / antiarrhythmics
4. Corticosteroids
5. Botulinum toxin
New Perspective

New Research & The Controversy of Opioids Usage in Treating Chronic Pain
Why Not Opioids?

Because of fear of: Addiction >> Overdose >> Not being affective in the long term.

Take the U.S for example they are now facing what they describe to be an Opioids Crisis!
635,526,124,478$
That’s a lot of money

116,244,342 users
And a lot of users

66%
Chance of developing Tolerance & Physical Dependence!
Nothing is Set in Stone !!!

Just because a certain modularity of treatment is being used doesn’t mean it’s the best.

New research is always coming.

Medicine is ever evolving.
Future Solutions

One of the most promising Research areas is Harvesting Stem-Cells from Bone Marrow & Umbilical Cord. Then injecting them into an area suffering from pain.
Thanks!

Any questions?
References

- Harvard’s Medical school talk about Pain management by (Dr. James Rathmell & Bertha Madras & Clifford Woolf).
- British Medical Journal [www.bmj.com]