Prescribing during breastfeeding

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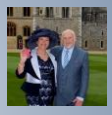
1

Who am I?





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We know breastfeeding affects women's use of medication

- 65.9% of women have taken a drug whilst breastfeeding a baby < 6 months
- 79.6% of formula feeding mothers have taken a drug whilst breastfeeding a baby < 6 months
- 56.5% received some meds in the first 5 days after delivery (mostly analgesics and antibiotics)

E Schirm et al Drug use during breastfeeding. A survey from the Netherlands European Journal of Clinical Nutrition (2004) 58, 386–390

Jones and Brown The Pharmacist's Contribution to Primary Care Support for Lactating Mothers Requiring Medication. J Soc Admin Ph 2000;17(2):88-98

3

Breastfeeding in the UK

Although we know that breastfeeding offers the best start for all babies, the percentage of babies in the UK who are receiving any breastmilk at 12 months is the lowest in the world (Rollins 2016 www.thelancet.com/series/breastfeeding).

4

Breastfeeding importance

Immunisation is preventative medicine par excellence. If a new vaccine became available that could prevent 1 million or more child deaths a year and that was moreover cheap, safe, administered orally.....it would become an immediate public health imperative.

Lancet 1994

If breastfeeding did not already exist, someone who invented it today would deserve a dual Nobel Prize in medicine and economics

Lancet 2016

5

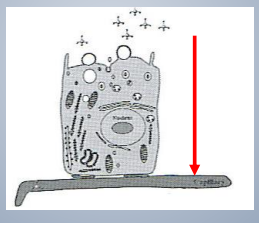
Why do professionals need information?

- Medical professionals don't receive undergraduate training on breastfeeding let alone drugs in breastmilk
- The BNF does not provide quantitative information on the safety of drugs in milk
- Medical professionals are cautious about harming baby by the drug passing through milk when they don't have access to full data

6

How do drugs get into breastmilk?

Simple diffusion - 99% drugs



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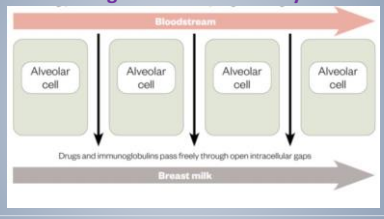
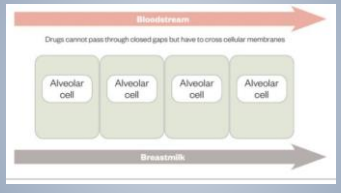
Transfer of drugs in the first few days after birth



The gaps between the cells are wide open to allow the passage of immunoglobulins which are large molecules. This allows free passage of all medication BUT this is when we give most drugs to breastfeeding women with least concern.

8

Transfer after the first few days after birth



After the first few days the gaps between the cells close and prevent the passage of large molecules further. Drugs now have to pass across the cell membranes

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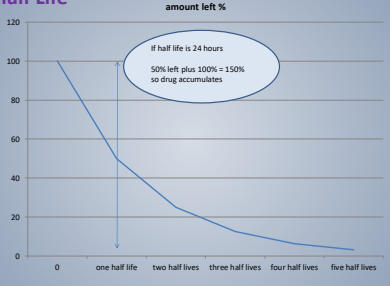
I've been told.....

Mums told they can feed for first 6 weeks then better to artificially feed as no benefit from breastmilk and risk of drug is higher

How does that make sense?

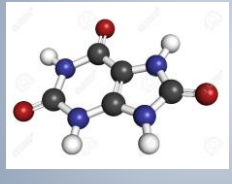
10

Half Life



11

Oral bioavailability



- Large molecules cannot pass through cell membranes
- Usually. drugs given ONLY by injection
- If a drug can't get be absorbed from the gut however much is in milk, baby can't absorb it – gentamycin, teicoplanin, meropenem, insulin

12

But BNF says:

Breast feeding: "Amount in breastmilk unlikely to be harmful. However, manufacturer advises avoid."

The role of the manufacturer is often unhelpful to professionals and mothers who think there is some secret data on file

How do we make informed choices?

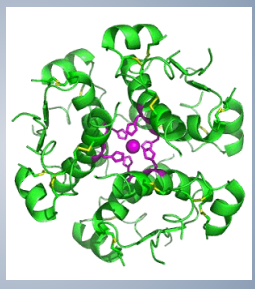
How do we decide safety at different ages e.g. toddler feeding twice a day compared to newborn compared to premature baby

13

Anti TNF Drugs

If they have no oral bioavailability why are we so scared about using them in lactation especially when so many of the conditions we use them to treat are auto immune conditions which are influenced by use of artificial milk in infancy.

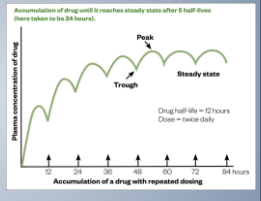
Breastmilk protects the babies, it matters



14

Timing of drugs and feeds

- The time to maximum level in breastmilk is often quoted
- Mums try desperately to time feeds with drug levels at their lowest
- BUT … once any drug has been taken for 3 days (or 5 half lives) reaches steady state so timing is pointless



15

I've been told….

- Mums told to take drug then discard milk for a period – then feed for the rest of the day or only feed once a day before medication
- Sertraline – adds to the anxiety, they take it at night before longest baby sleep, then cant sleep themselves, what if baby wakes unexpectedly e.g. teething?

16

Relative Infant dose

- Widely being recognised as gold standard
- RID < 10% compatible
- First introduced by Bennet 1996
- Widely used by Hale

$$\text{RID} = \frac{\text{Dose.infant}\ \left(\frac{mg}{kg}/day\right)}{\text{Dose.mother}\ \left(\frac{mg}{kg}/day\right)}$$

Dose.infant = dose in infant/day
Dose.mother = dose in mother/day

17

Anaesthetics

- Many, many women were/are told they cant breastfeed for 24 hours after a GA
- Where is the evidence for that?
- What about maternal risk of mastitis?
- What if baby refuses a bottle?
- Where is the risk: benefit?

https://associationofanaesthetists-publications.onlinelibrary.wiley.com/doi/full/10.1111/anae.15179

18

The problems caused by lack of understanding about the safety of drugs in lactation

"Rocked up at 8am with my 5 month old (and my husband to babysit whilst I was having my MRI), 20 minutes later I was back in the car on the way home because I supposedly couldn't have it whilst breastfeeding! He's nearly 1 now and I just had the MRI last week - still breastfeeding."

- What was the cost to the NHS of the cancellation?
- What about the mother's health – she waited > 7 months
- Was it necessary?
  - oral bioavailability of gadolinium = 0.8%, half-life = 1.7 hours, (5x $t_{1/2}$ =8.5 hours)

19

Midazolam

"I was due to have a colonoscopy under sedation, I still had the procedure under gas and air instead as I was so furious at their attitude. They told me I would endanger my child."

- Oral bio availability 40-50%, $t_{1/2}$ 3 hours, RID 0.63%, undetectable after 4 hours but that was in a study as a sedative in newborns vs nitrazepam.
- "It is Trust Guidelines"
- The manufacturer recommends 24 hours
- Included in the anaesthesia guidelines can feed as soon as awake and alert

20

COVID 19 Vaccination

- December 2020 licensed by MHRA BUT to be used when breastfeeding has ceased.
- Professionals on front line felt they had to stop breastfeeding to protect themselves and their families
- Vaccines are large molecules which cant pass in to milk
- Initial statements by InfantRisk USA
- January MHRA stated that the vaccine can be given to breastfeeding mothers in TV briefing
- Paperwork took time to amend
- Professionals confused and breastfeeding women turned away

21

Misunderstanding the risk of interrupting breastfeeding

"I have Iritis and been given Maxidex steroid eye drops. The doctor was concerned about me breastfeeding and using them, he's suggested I pump and dump for a week."

First night last night and my baby has screamed in pain with trapped wind.

22

Identifying the cause of breast and nipple pain during lactation (https://www.bmj.com/content/374/bmj.n1628)

https://breastfeeding-and-medication.co.uk/fact-sheet/what-do-mothers-want-healthcare-professionals-to-know-about-breast-and-nipple-pain-in-lactation

- What do mothers want professionals to know about nipple pain during lactation?
- "Understanding that formula isn't the solution and that some of us want to work at it. That it happens and telling you maybe you should bottle feed doesn't help.
- "That it's OK as a professional to say you don't know and you don't have an answer, and it's OK to point people to someone else that might have an answer."
- "That it's not always bloody thrush!!!!"

23

What do women want healthcare professional to know about the needs of the perinatal mum with mental health challenges?

- "STOPPING BREASTFEEDING CAN MAKE THINGS WORSE!"
- "I had quite significant PND and anxiety and it made all the difference that the professional I saw was fully clued up on both perinatal mental health and breastfeeding with medications. It made an appointment I was really nervous about much easier and I felt reassured.
- I knew already about the suitability of medications with breastfeeding but had experienced professionals in the past being really ill informed about breastfeeding, and the last thing I needed at that point was having to fight my corner as I'd had to do before. So, I really appreciated her knowing her stuff. "

https://breastfeeding-and-medication.co.uk/fact-sheet/what-do-women-want-healthcare-professional-to-know-about-the-needs-of-the-perinatal-mum-with-mental-health-challenges

24

The Safer Medicines in Pregnancy and Breastfeeding Consortium

- A major new initiative to ensure pregnant and breastfeeding women can make informed decisions about their healthcare
- Consortium brings together 16 leading organisations under a common pledge to meet the information needs of pregnant and breastfeeding women and healthcare professionals, through accessible, clear and consistent advice.
- The partnership spans the NHS, regulators, and leading third sector and charitable organisations. Together, this group will develop a long-term programme of work to improve information provision on medicines for women who are thinking about becoming pregnant, are pregnant, or are breastfeeding.
- In the UK, hundreds of thousands of babies are born each year, and more than 50% of expectant mums will need to take a medicine of some description when pregnant. However, more needs to be known about the effects of taking medicines in pregnancy and during breastfeeding.

25

So if a drug is licensed for children it is safe?

Unlikely that level passing through breastmilk will reach anything like the paediatric licensed therapeutic dose

- Montelukast levels in milk averaged 5.32 µg/L. and the absolute infant dose was 0.79 µg/kg/day. Licensed dose 6m-5 years 4mg/day
- Loratadine 4 kg infant would receive only 2.9 µg/kg of loratadine, licensed dose at 2 years 5mg/day
- Mebendazole dose in adults and children the same, oral bioavailability <10%

26

How to advise women on the safe use of medicines while breastfeeding

- Medicines use plays an important role in women's decisions to start or continue breastfeeding. Some may stop breastfeeding or the medicine to avoid combining the two, as they feel very strongly about tainting their milk when breastfeeding.
- Women deserve to be involved in discussions on compatibility, using evidence-based resources presented in a manner in which they can understand.

(https://pharmaceutical-journal.com/article/ld/how-to-advise-women-on-the-safe-use-of-medicines-while-breastfeeding)

27

Antibiotics

- Cause temporary lactose intolerance in the baby, inconvenient but not harmful and recovers without treatment
- **Co-amoxiclav** and **erythromycin** seem to cause more stomach pains in babies, we don't know why
- **Metronidazole** altering taste of milk?
- No reason to interrupt breastfeeding
- Remember mum is passing on antibodies
- Can't transfer the infection through breastmilk

https://breastfeeding-and-medication.co.uk/fact-sheet/antibiotics-and-breastfeeding

28

Hypertension

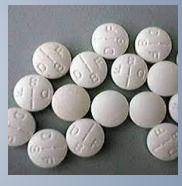
- **Labetolol**: RID 0.2-0.6% (oral bioavailability 30-40%) be alert for white nipples after feeds as labetolol can affect blood supply at extremities
- ACE inhibitors: use **enalapril** as most evidence RID <0.2%
- **Amlodipine**: RID 1.72%-4.32%
- **Nifedipine**: may be used with Raynaud's phenomenon RID <3.4%
- Diuretics: furosemide and bendroflumethiozide: avoid

https://breastfeeding-and-medication.co.uk/fact-sheet/hypertension-raised-blood-pressure-and-breastfeeding

29

Pain relief

- Paracetamol
- NSAID: Ibuprofen, diclofenac or naproxen
- Short term use of opioid all compatible with normal breastfeeding : opioid of preference is dihydrocodeine as the oral bio availability is 20% due to substantial first pass metabolism.
- MHRA recommendation codeine should not be used during breastfeeding. Maternal metabolism can vary – may be ineffective, effective, produce adverse events in mother and baby



30

Laxatives – especially if mum has had any opioid!

- Osmotic laxatives don't get into milk
- Bulk forming laxatives don't get into milk
- Stool softeners don't get into milk
- Normal doses of stimulant laxatives e.g. senna or bisacodyl compatible with breastfeeding if use essential

31

First do no harm?

Breastmilk does not turn off like a tap

Risks of suddenly interrupting breastfeeding

- Mastitis
- Baby refuses to feed from formula
- Baby intolerant of formula
- Milk supply drops
- How to restimulate supply

32

Resources



- My books ☺
- LactMed - https://www.ncbi.nlm.nih.gov/books/NBK501922/
- UKDILAS - https://www.sps.nhs.uk/articles/ukdilas/
- Hale – Medications and Mothers Milk - https://www.halesmeds.com/
- BfN Factsheets https://www.breastfeedingnetwork.org.uk/drugs-factsheets/
- My Website Factsheets www.breastfeeding-and-medication.co.uk
- You can email me wendy@breastfeeding-and-medication.co.uk

33

Let's continue to change the conversation

- Provide mothers (and their partners) with evidence based information not the BNF or the manufacturer's recommendation
- Let's use shared decision making
- Let's promote and support breastfeeding?
- Let's find an alternative so that she can continue to breastfeed as normal

34

Healthcare professionals need training on breastfeeding, the safety of drugs in breastmilk and sensitivity to the needs of mothers around infant feeding

Contact details

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www.facebook.com/breastfeedingandmedication

35