Avoiding harms of too much medicine: lessons for the junior doctor

Dec 14, 2017 | 0

challenges,education,ontheblogs,tips for internship,Working & training in healthcare

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The cost of too much medicine & low-value healthcare

Low-value care has infiltrated clinical practice like a malignant tumour. Experts estimate that it accounts for 30% of Australian healthcare expenditure, an eye-watering $46 billion dollars [1]. I thought the modern medical curriculum had immunised us against these low-value habits, until I heard of a patient being harmed by a well-meaning junior doctor whose actions sounded so familiar that it could have easily been me.

The patient was a 67-year-old woman with a history of hypertension who presented with fever, cough and dyspnoea and was found to have a new left lower zone consolidation. She was diagnosed with community-acquired pneumonia and started on empiric antibiotics [2].

Giving unnecessary or too much medicine

A day into her admission she spiked a fever and was reviewed by the covering junior doctor. There was a clear explanation for the fever and no signs of deterioration. A set of blood cultures was taken. Unfortunately, the initial microscopy showed Gram-positive cocci which compelled her regular clinicians to add vancomycin to cover for MRSA while waiting for formal identification.

The harm had already been done when it was finally identified as a garden-variety skin contaminant, *Staphylococcus epidermidis*. By then she'd been exposed to an additional antibiotic from which she received no benefit. The patient's hospital stay was prolonged and she reported heightened anxiety as well as diminished physical strength and loss of income while waiting for the result.

Many well-meaning junior doctors, including myself, will have acted similarly when confronted with febrile patients after hours. Perhaps having being influenced by the now-debunked dogma that positive cultures are most likely when taken during the fever spikes [3]. As I later realised, cultures for this lady was a low-value test unlikely to provide much benefit at all [2].

Blood cultures not always useful

Experts have reviewed the evidence and concluded that blood cultures aren't all that useful in uncomplicated community-acquired pneumonia [4]. It's a condition that has a low-risk of bacteraemia, which is outweighed by the risk of isolating skin contaminants, and even true results don't alter the antibiotic regimen [5]. The message is that blood cultures should be reserved for patients who are immunocompromised, where you suspect endocarditis or with conditions that have a higher risk of bacteraemia where it influences antibiotic selection [4].

I found this advice challenging to integrate into my practice and I'm not alone. A study of night residents showed that few felt their approach to fever was evidence-based or cost-effective, but that didn't stop them from ordering extensive workups when confronted with febrile patients [6]. The authors hypothesised that night residents err on the side of caution to avoid disappointing their peers. I suspect that when faced with high workloads they also succumb to decision fatigue.

We think that we're practicing safely because we don't see the dangers of too much medicine. Despite taking an oath to 'do no harm', clinicians over-investigate to avoid the guilt caused from errors by omission without considering the risk of diagnostic misadventure [7]. The junior doctor in the above example probably never realised the consequence of an innocent blood culture, at least until it was published. There are many examples of unintended harms such as lifelong monitoring for 'incidentalomas', complications from the ensuing cascade of investigative procedures or cumulative radiation exposure leading to cancer.

Choosing Wisely

Fortunately, the tides have turned since the launch of Choosing Wisely, a campaign that empowers patients to question the investigations, treatments and procedures being

offered to them. Patients are becoming more actively involved in their care by asking five simple questions [8].

1. Do I really need this test, treatment or procedure?
2. What are the risks?
3. Are there simpler, safer options?
4. What happens if I don't do anything?
5. What are the costs?

Choosing Wisely has also partnered with the specialty colleges to expose the faulty thinking that perpetuates low-value care. Together they promote lists of potentially unnecessary tests, procedures and interventions. Junior doctors would benefit from familiarising themselves with their recommendations on the indications for imaging in uncomplicated back pain, common prescribing cascades and judicious use of blood products.

One notable recommendation is to "avoid blood cultures in patients who are not systemically septic but have a clear source of infection where a direct specimen is possible" [9]. If the doctor in the above case had been aware of this recommendation, they might have felt more comfortable in ordering a sputum culture and monitoring for deterioration overnight.

As junior doctors, we have a role to play in combating low-value care. We trained in programs that pride themselves on producing evidence-based care and patient-centred clinicians. Let's leave behind the epidemic of low-value care in favour of reflective practice and thoughtful restraint.

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