

1. Herbal interactions

A doctor asks if it is safe for his 74-year-old patient to take ginkgo biloba. She is taking ramipril, aspirin, simvastatin, bisoprolol, and a salbutamol inhaler when required.

Suggested questions to ask include:

(a) Is she already taking ginkgo, or about to start?

If she is already taking the combination, how long has she been taking it for?

(b) Why are you asking?

Has the doctor or patient read somewhere that there might be an interaction? Has a potential side effect already come to light? Is the doctor worried about any side effect in particular?

(c) What is the ginkgo being taken for?

You might like to check out the evidence to support the role of ginkgo for this indication – especially if it looks like there could be an interaction, or if there are no data about interactions. A lack of evidence for effectiveness, or positive evidence of no benefit, may be further reasons for avoiding ginkgo.

Suggested sources:

- The Natural Medicines Database is an ideal first-line resource if you have access, together with Herbal Medicines or Stockley's Herbal Medicines Interactions.

2. Interaction information online

A patient's mother has seen information online that vigabatrin interacts with omeprazole. Her one-year-old son is taking both drugs and she tells you that she is going to stop one of them. She asks for advice on which one to stop.

Suggested questions to ask include:

(a) What did it say on the internet about this interaction?

What is the nature of the alleged interaction? The word 'interaction' means nothing without some sort of explanation. What actually happens when the two drugs are given together and how serious is it?

(b) Is the patient well?

Has the parent noticed any problems in her son that she has attributed to the interaction?

(c) What is the address of the website?

So that you can check it out yourself. Maybe the mother has misinterpreted the information.

(d) Have you spoken to your doctor about this?

It would be inadvisable to stop either medication without medical advice.

(e) What is the indication for each medicine?

So you can explain the implications if the mother wants to stop administering either of them.

Suggested sources:

- SmPCs
- Stockley's Drug Interactions
- Maybe Micromedex or Lexicomp if you have access
- Embase/Medline/Google Scholar search

3. Amiodarone and digoxin

A trainee pharmacist colleague asks you for advice on how to manage a patient who is taking amiodarone and digoxin for atrial fibrillation.

Suggested questions to ask include:

(a) How long has the patient been taking the combination for and at what dose?

A good first question. If the patient has been taking the two drugs together uneventfully for years you would not be concerned unless something had changed recently (*e.g. dose of either drug increased, renal function deteriorated*). You would be concerned if the patient was taking a large dose of digoxin (*e.g. 250 micrograms*) and had started the combination recently.

(b) What is the clinical condition of the patient?

Is there clinical evidence of potential digoxin toxicity? Is the combination satisfactorily controlling the patient's condition?

(c) Has a digoxin level been taken?

If so when, and what were the results? If amiodarone has only just been added, a digoxin level before amiodarone was started is still helpful – if it is near the upper limit of normal the addition of amiodarone is more likely to push the patient into toxicity. If there is no historical digoxin level, is it planned to do a level soon? If so, when?

(d) How old is the patient and what is their renal function?

Older patients have poorer renal function. Patients with poor renal function take longer to reach steady-state digoxin levels. So a patient who seems OK on the combination for the first few days may become toxic a week later. It can be particularly difficult to manage digoxin in the presence of fluctuating or deteriorating renal function.

(e) Who is caring for the patient?

You might be less concerned if this was a consultant cardiologist who would probably be familiar with the risks associated with this combination and would most likely monitor the patient accordingly (including digoxin levels if appropriate). You would be rather more worried if this was a non-specialist such as a surgical junior doctor or GP who would probably not be familiar with the combination and may not understand the dangers and the importance of monitoring.

Since this question refers to a hospital patient, has the GP been informed about any monitoring requirements if he/she will be leaving the hospital soon?

Suggested sources:

- Stockley's Drug Interactions
- A source for therapeutic drug monitoring (TDM) – e.g. your hospital policy
- Martindale, AHFS Drug Information, Micromedex or Lexicomp if you have access
- Your cardiology pharmacist