

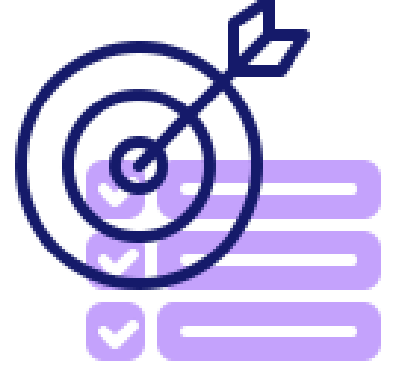
Prescription review of digoxin-treated inpatients. Pharmacist involvement in its pharmacokinetic monitoring and dosage adjustment.

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WHAT WAS DONE?

Twice-weekly active and extensive pharmaceutical review of digoxin-treated inpatients was established.

AIM →



To identify whether the prescription was adequate and to adjust dosage according to plasma concentrations (PCs) and clinical situation.

WHY WAS IT DONE?

Digoxin is a drug frequently implicated in medication errors due to → its difficult clinical management.

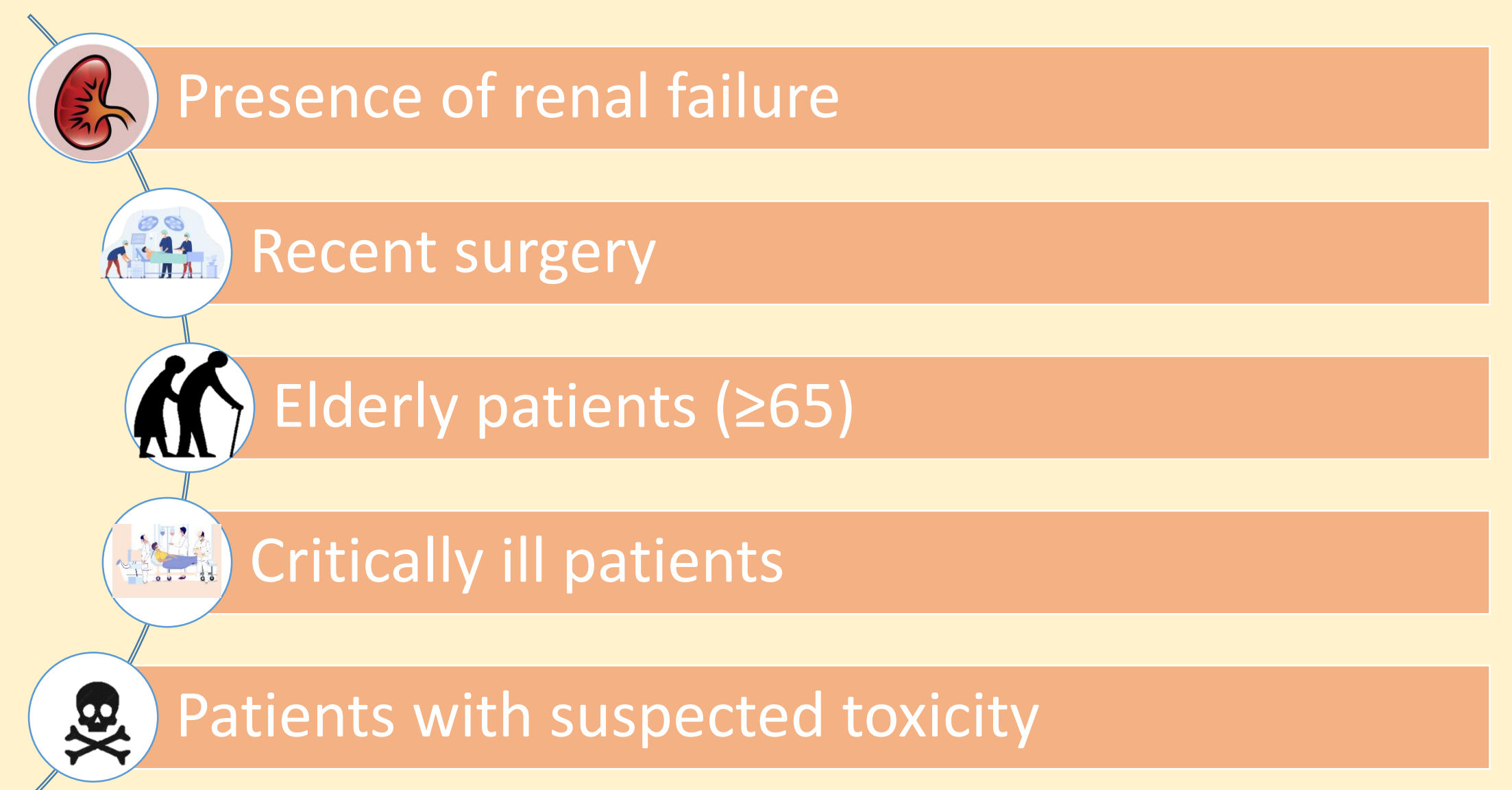
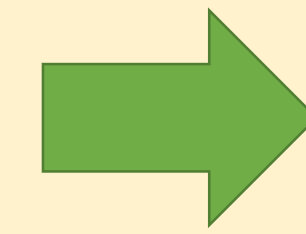
It has also been observed that digoxin pharmacokinetics could change in acute medical conditions compromising → its effectiveness and safety.

As **hospital pharmacists**, we have the opportunity to review in detail which dose is the most appropriate for every patient.

HOW WAS IT DONE?

1. A **multidisciplinary team comprising pharmacists and cardiologists** was created to identify possible solutions to improve digoxin prescribing.

2. It was agreed that a twice-weekly extensive review of digoxin-treated inpatients would be conducted. Candidates for digoxin monitoring were patients on chronic digoxin therapy and with at least one of the following risk factors



3. Once the patients were identified by the pharmacist, they would be discussed with the cardiology team.

4. Digoxin prescriber would be contacted to recommend a PC determination. PC reference range was set at **0.8-1.2 µg/L** for **atrial fibrillation (AF)** and **0.5-0.8 µg/L** for **heart failure (HF)**.

5. PCs would be interpreted using a pharmacokinetic monitoring software (PKS Abbot).

6. Monitoring results and recommended dosage adjustments would be communicated.

WHAT HAS BEEN ACHIEVED?



From August 2021 to May 2022, **190 patients** were identified. **65 (33.7%)** were considered for monitoring, of whom **21 (32.3%) were women**. The average age was **77.9 (SD 11.7)**. **65 (100%)** with **AF** and **8 (12.3%)** also with **HF**.



33 (51%) of monitored patients required a dosage adjustment, of whom **23 (69.6%)** required a dose decrease, **5 (15.2%)** an increase and **5 (15.2%)** to stop the treatment. Median digoxin concentrations were **1.23 µg/L** (interquartile range: 0.75-2.03).



This initiative has improved **prescribing digoxin quality, its effectiveness and safety**.

WHAT IS NEXT?

The process described applies to any center able to monitore digoxin CPs, both in inpatient and outpatient settings.

