



BARROWS CARDS: Therapeutic self care in a paediatric blood cancer unit



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Introduction

Barrows cards are used in the United States to increase medical students' problem solving abilities. The exercise consists in solving a clinic case using decision-making based on previously acquired skills. We adjusted this method to so that it could be used for therapeutic self care in hematology/oncology patients.

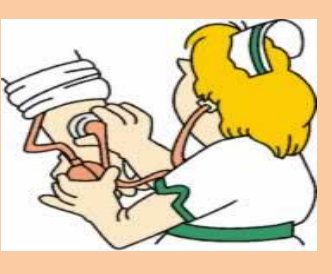
Methods

- 1) Every deck is composed by a first card describing a complex situation, followed at least by another 15 cards. On the front of the each card a problem is proposed and one possible solution chosen by the patient. On the back, feedback is given about the chosen solution.
- 2) Solutions were provided by experts and are based on scientific evidence.
- 3) Cards will be evaluated by some patients who will be selected according to the following elements-ability to cope with the disease, compliance, and harmony with health professionals based on their educational compliance.
- 4) The evaluation tool will be a quality test. Patients will be asked to evaluate pictures, contexts, their decision-making autonomy and their prefiguration skills.

Results

- 1) We developed this first card deck to test the effects of therapeutic education in haematopoietic stem cell transplanted adolescents.
- 2) The question in card 1 is about how to self-manage immunosuppressant therapy.

YOU HAVE MEASURED YOUR BLOOD PRESSURE FOLLOWING THE ISTRUCTIONS YOU WERE GIVEN AT THE DAY HOSPITAL. YOU NOTICE IT'S UNUSUALLY HIGH.

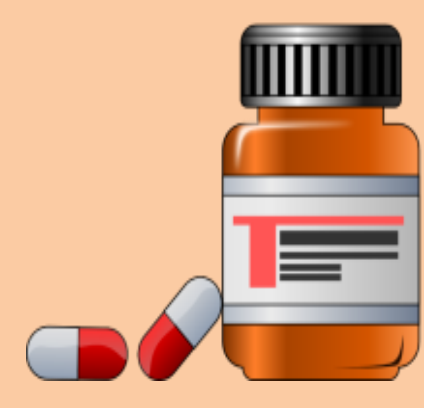


"I'LL TAKE MY DRUG ANYWAY AND CALL MY DOCTOR TOMORROW."

WRONG

One of the main side effects of immunosuppressant therapy is that it increases blood pressure. You need to receive feedback from your doctor. It might be necessary to reduce the doses or temporarily interrupt it.

LAST NIGHT YOU TOOK YOUR MEDICINE AT MIDNIGHT INSTEAD OF 8 PM.




"AT TOMORROW MORNING'S CHECK, I'LL INFORM MY DOCTOR ABOUT THIS DELAY IN TAKING THE MEDICINE."

CORRECT

The immunosuppressant blood concentration varies according to the timing of the last intake. Whenever you don't respect the schedule, you need to inform your doctor.

YOU FEEL A BURNING SENSATION WHILE URINATING. YOU MAY HAVE A URINARY INFECTION.




"THIS COULD BE A SIDE EFFECT OF IMMUNOSUPPRESSANTS. I'LL INTERRUPT IT."

WRONG

Immunosuppressants predispose you to infections (e.g. Urinary). However, stop taking the medicine only if the infection is severe.

IT'S A SUNNY DAY.




"I'LL GO TO THE BEACH TO SUNBATHE."

WRONG

Exposure to sunlight and UV light should be limited by using a sunscreen with a high protection factor. Being a photosensitizing agent, the medicine increases the risk of sunburns and even malignant skin lesions.

THIS MORNING YOU HAVE YOUR BLOOD TEST AT THE DAY HOSPITAL.




"I'LL TAKE MY THERAPY ANYWAY."

WRONG

Immunosuppressive blood concentration varies according to the time of the last intake. After taking the medicine, your blood test would show an unusually high blood concentration.

You have just been discharged from hospital after hematopoietic stem cell transplantation. At home, you are going to continue with the immunosuppressive therapy taking it orally – soft capsules or syrup - instead of intravenously. In your hospital discharge letter, you will find instructions about formulation, doses and timing.

IT'S 4pm. THIS MORNING YOU FORGOT TO TAKE THE IMMUNOSUPPRESSOR.




"I DON'T NEED TO MAKE UP FOR IT. THE NEXT DOSE WILL BE IN A FEW HOURS."

CORRECT

Two doses in a short lapse of time might cause a peak blood concentration with consequent side effects.

YOUR LOCAL HEALTH AUTHORITY CALLS YOU FOR AN OPTIONAL VACCINATION.

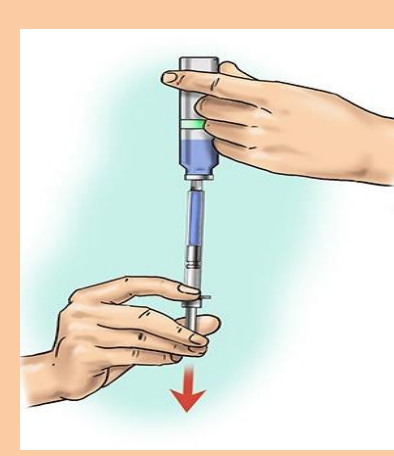


"I'LL ASK MY DOCTOR BEFORE FIXING AN APPOINTMENT."

CORRECT

During immunosuppressive therapy, vaccinations may be ineffective. You should also avoid live attenuated vaccines.

YOU'RE ABOUT TO TAKE AN IMMUNOSUPPRESSIVE ORAL SOLUTION. YOU NOTICE SOME BIG AIR BUBBLES INSIDE THE SYRINGE.

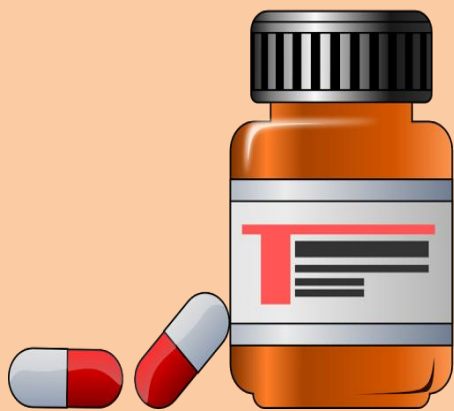


"I'LL TRANSFER THE SOLUTION FROM THE SYRINGE INTO A GLASS AND DRINK IT."

WRONG

Big air bubbles will surely lead you to take less medicine than you are supposed to. Push the syringe plunger down. Make sure the air is out. Pick up the right amount of solution. Small bubbles are unimportant and will not interfere with the process.

THIS MORNING YOU ACCIDENTALLY TOOK THE IMMUNOSUPPRESSOR TWICE.




"I'LL CALL THE DAY HOSPITAL AND ASK THEM WHAT TO DO WITH THE EVENING DOSE. "

CORRECT

You need to consult your doctor, who knows your blood concentration and will tell you whether to take the following dose.

YOU ARE TAKING THE MEDICINE IN VIA ORAL SUSPENSION.



"EVERY TIME I OPEN A PACKAGE FOR THE FIRST TIME, I WRITE THE DATE ON IT."

CORRECT

The medicine can be used within two months after opening the package. Don't freeze it. Store between 15 °C and 30 °C.

AFTER AN ACCIDENT, YOU ARE ADMITTED TO ANOTHER HOSPITAL.




"I'LL BRING MY LAST MEDICAL REPORT WITH INFORMATION ABOUT MY REGIMEN."

CORRECT

Doctors must always be aware of the therapy you are taking.

YOU ARE FEELING DOWN. YOUR HERBALIST SUGGESTS YOU TO TRY A PLANT SUPPLEMENT.




"I'LL CONSULT MY DOCTOR FIRST."

CORRECT

You need to consult your doctor before taking any other medicine, including those without a medical prescription. Blood concentration may increase or decrease after taking plant products.

THIS MORNING YOU WOKE UP WITH A HEADACHE AND YOU'VE ALSO NOTICED A MILD TREMOR OF YOUR HANDS OVER THE LAST FEW DAYS.



"MY EXAMINATION IS IN TWO DAYS. I'LL WAIT FOR IT TO REFER MY SYMPTOMS."

WRONG

Headaches and tremors are two of the main side effects of the therapy. You need to receive feedback from your doctor. It might be necessary to reduce the doses or interrupt it temporarily.

ORAL SUSPENSION HAS AN UMPLEASANT TASTE.




"I'LL DILUTE IT WITH SOME GRAPEFRUIT JUICE."

WRONG

Taking the immunosuppressor in combination with grapefruit juice increases its bioavailability because of an interference of the fruit with the drug metabolizing enzyme system. If you feel like drinking something you can dilute the oral solution with any other juice or non-alcoholic drink, according to your taste!

YOU HAVE HAD DIARRHOEA FOR 4 DAYS AND YOUR SKIN IS COVERING WITH RED SPOTS.



"THIS MAY BE DUE TO THE IMMUNOSUPPRESSOR. I'LL SUSPEND IT."

WRONG

Immunosuppressive therapy is used for prophylaxis or Graft-versus-host disease (GvHD) Diarrhoea and red spots are two of the main symptoms of the disease. You may be having a GvHD onset or relapse. Your doctor could make you take the medicine intravenously until the effects subside.

REFERENCES

- Barry D. Kahan. Cyclosporine. Biological and clinical applications. 1984 by Grune & Stratton, inc.
- Katzung B.G., Masters S.B., Trevor A.J., Farmacologia generale e clinica, Cap 55: Immunofarmacologia, Ed. Piccin, 2011.
- Calcineurin inhibitors: 40 years later, can't live without ... Azzi JR¹, Savegh MH, Mallat SG, J Immunol. 2013 Dec 15;191(12):5785-91.
- Severe neurologic complications after hematopoietic stem cell transplantation in children. Faraci M, Lanino E, Dini G, Fondelli MP, Morreale G, Dalorso S, Manzitti C, Calevo MG, Gaggero R, Castagnola E, Haupt R. Neurology. 2002 Dec 24;59(12):1895-904.
- Scheda tecnica Sandimmun Neoral. Novartis Europharm Limited - Wimblehurst Road, Horsham, West Sussex, RH12 5AB - Regno Unito
- Phototoxic and photoallergic cutaneous drug reactions. Glatz M., Hofbauer GF. Chem Immunol Allergy, 2012; 97: 167-79.
- AIFA: Agenzia Italiana del Farmaco, Nota informativa su Prograf, 2012.
- Raccomandazione: Vaccinazioni nei soggetti immunocompromessi: trapianto d'organo, di cellule staminali emopoietiche, in terapia steroidea. U.O.C. Malattie infettive. Istituto Giannina Gaslini, 2013.
- Medication errors among adults and children with cancer in the outpatient setting. Walsh K. Et al. Journal of Clinical Oncology 2009; vol 27; n°6, 891-896.
- Use of antioxidants to prevent Cyclosporine a toxicity. Lee J.Toxicol. Res. 2010; 3: 163-170.