production. Mean relative errors (MRE) between the theoretical osmolarities calculated with the PDS and MD equations and the measured osmolarity were compared using a Student's t test. NPN was divided into seven ranges according to the osmolarity measured by freezing point depression with the OsmoPro osmometer (Advanced Instruments).

Results 2572 NPN were analysed. Osmolarities were distributed as follows: 1.7% from 500 to 749 mosmol/L, 19.6% from 750 to 999 mosmol/L, 25.5% from 1000 to 1249 mosmol/L, 18.4% from 1250 to 1499 mosmol/L, 15.5% from 1500 to 1749 mosmol/L, 15.3% from 1750 to 1999 mosmol/L and 4.0% over 2000 mosmol/L. Between 500–749 and 750–999 mosmol/L, the MRE of osmolarities were similar with both equations ($p=0.99$ and $p=1$). However, there was a significant difference in MRE in favour of the PDS equation between 1000 and 1249 mosmol/L ($p=0.027$), 1250 and 1499 mosmol/L ($p=6.5\times10^{-45}$), 1500 and 1749 mosmol/L ($p=2.4\times10^{-12}$), 1750 and 1999 mosmol/L ($p=2.05\times10^{-129}$) and over 2000 mosmol/L ($p=1.66\times10^{-36}$).

Conclusion and relevance From 500 to 999 mosmol/L, both equations can be used to predict NPN osmolarities. For NPN with osmolarities from 1000 to over 2000 mosmol/L, the PDS equation was significantly more accurate. Therefore, the actual theoretical osmolarity calculation method should be revised in favour of the MD equation for NPN with osmolarities <1000 mosmol/L and the PDS equation for NPN with osmolarities >1000 mosmol/L.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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Conflict of interest No conflict of interest

3PC-073 EVALUATION OF ANTIBIOTICS' PHYSICOCHEMICAL INCOMPATIBILITY WITH THE PRESENCE OF DIVALENT CATIONS

[1]H Attjioui*, [1]I Bennani, [1]O Hamdaoui, [2]A Cheikh, [1]H Mefetah, [1]M Bouatia. *[1]Mohammed V University-Faculty of Medicine and Pharmacy of Rabat, Chis, Rabat, Morocco; [2]Abulcacis University-Faculty of Medicine and Pharmacy of Rabat, Pharmacy, Rabat, Morocco*

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Background and importance The sensitivity of drugs to dietary influences largely depends on their physicochemical properties. Interactions between drugs and foods may induce a change in the physicochemical and pharmacological properties of the active ingredient, such as its bioavailability and toxicity.

Aim and objectives To determine the physicochemical incompatibility of the active ingredient (AI) of some antibiotics in the presence of divalent cations found frequently in our daily diet or in patients using parenteral nutrition at the hospital.

Material and methods We selected nine active ingredients of the most commonly used antibiotics at the hospital, mixed separately with four divalent cations. The mixtures were made by introducing the components in an equivalent amount into test tubes. The tests were carried out under two conditions: (1) ambient temperature and (2) after heating and acidification of the mixtures with HCl. 90 AI/cation mixtures were made and analysed after 1 hour. The physicochemical properties previously established for both the active ingredients and the cations were compared with the new data using UV visible spectroscopy.

Abstract 3PC-073 Table 1

	Ambient temperature				After heating and acidification			
	Ca^{2+}	FE^{2+}	MG^{2+}	ZN^{2+}	Ca^{2+}	FE^{2+}	MG^{2+}	ZN^{2+}
Trimethoprim	-	++	-	-	+	+++	+	-
Amoxicillin trihydrate	-	-	-	-	-	+	-	-
Spiramycin	-	-	-	-	-	+	-	-
Sulfamethoxazole	-	-	-	-	-	+	-	-
Metronidazole	-	-	-	-	-	+	-	-
Ciprofloxacin	-	++	-	+	-	+++	-	+
Tetracycline	++	-	-	-	+	+	-	-
Azithromycin	-	-	-	-	-	+	-	-
Cefixime	-	++	-	-	-	+++	-	+

-, no visual interaction ; +, presence of precipitate ; ++, change colour ; +++, change colour with presence of precipitate.

Results Results are represented in table 1.

Conclusion and relevance Compatibility data with oral or parenteral nutrition is often missing for most of the frequently used drugs requiring a case-by-case assessment. The clinical pharmacist's understanding of physicochemical and pharmacological phenomena related to drug and food incompatibilities is a useful resource in the management and prevention of this problem.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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Section 4: Clinical pharmacy services

4CPS-217 NETUPITANT–PALONOSETRON IN BREAST CANCER: POTENTIAL DRUGS INTERACTIONS

[1]E Tejedor Tejada*, [1]P Nieto Guindo, [2]S Portillo-Haro, [3]C Castaño Amores. *[1]Complejo Hospitalario Torrecárdenas, Pharmacy, Almeria, Spain; [2]Hospital San Cecilio, Pharmacy, Almeria, Spain; [3]Hospital San Cecilio, Pharmacy, Granada, Spain*

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Background and importance Neurokinin-1 (NK1) receptor antagonist (RA), netupitant, is usually co-administered with the serotonin (5-HT_3) RA, palonosetron, to prevent chemotherapy induced nausea and vomiting.

Aim and objectives To analyse potential drug interactions (PDI) between netupitant–palonosetron (NEPA) with breast cancer treatment.

Material and methods This was a retrospective observational study including all patients who started with epirrubicine and cyclophosphamide in a third level hospital from January to August 2020 (8 months). At the beginning of treatment, the pharmacist reviewed the medication during the pharmaceutical consultation. PDI were identified using Micromedex, Uptodateintreactions, Medinteract (Spanish Society of Hospital Pharmacy) and Drug Interaction checker (Food and Drugs Administration).