

Appendix 1: Supplementary data

Prevalence of high-risk drug-drug interactions in paediatric inpatients: a retrospective, single-centre cohort analysis

Ly Wen Dieu, Anne B. Leuppi-Taegtmeyer, John van den Anker, Daniel Trachsel, Verena Gotta

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Supplementary Table S1A: Drugs administered on surgery/orthopaedic ward.

Drug [active ingredient(s)]	No of cases	Frequency [%] (total = 200 cases)
Paracetamol	163	81.5
Mefenamic acid	99	49.5
Metamizole sodium	72	36
Midazolam	54	27
Ketorolac trometamol	52	26
Amoxicillin + clavulanic acid	49	24.5
Nalbuphine hydrochloride	44	22
Ibuprofen	36	18
Enoxaparin sodium	32	16
Ondansetron	32	16
Lidocaine + prilocaine	23	11.5
Cefazolin	16	8
Cholecalciferol	13	6.5
Dimetindene maleate	13	6.5
Cefuroxime	12	6
Esomeprazole	12	6
Macrogol + electrolytes	11	5.5
Salbutamol	10	5
Meclozine + caffeine + pyridoxine hydrochloride	9	4.5
Tramadol hydrochloride	9	4.5
Sodium picosulfate	6	3
Ceftibuten	5	2.5
Metronidazole	5	2.5
Valerian root extract + hop cone extract	5	2.5
Betamethasone	4	2
Bromelain	4	2
Ceftriaxone	4	2
Clindamycin	4	2
Lidocaine hydrochloride + chlorhexidine digluconate	4	2
Piperacillin + tazobactam	4	2
Sucrose	4	2

Drug [active ingredient(s)]	No of cases	Frequency [%] (total = 200 cases)
Enterococcus faecium strain cernelle 68 (SF68)	3	1.5
Heparine sodium	3	1.5
Lamotrigine	3	1.5
Levetiracetam	3	1.5
Meropenem	3	1.5
Oxybuprocaine + tyrothiricin + cetylpyridinium chloride	3	1.5
Oxybutynin hydrochloride	3	1.5
Phytomenadione (Vitamin K1)	3	1.5
Sodium chloride	3	1.5
Sulfamethoxazole + trimethoprim	3	1.5
Vancomycin	3	1.5
Baclofen	2	1
Chloral hydrate	2	1
Ciprofloxacin	2	1
Dalteparin sodium	2	1
Diazepam	2	1
Droperidol	2	1
Levocetirizine dihydrochloride	2	1
Magnesium aspartate	2	1
Morphine hydrochloride	2	1
Ofloxacin	2	1
Oxybutynin	2	1
Ringeracetate	2	1
Acyclovir	1	0.5
Amlodipine	1	0.5
Amoxicillin	1	0.5
Ascorbic acid	1	0.5
Budesonide	1	0.5
Calcium carbonate + calcium lactogluconate	1	0.5
Calcium carbonate + cholecalciferol	1	0.5
Calcium gluconate	1	0.5
Carbamazepine	1	0.5
Cefepime	1	0.5
Ceftazidime	1	0.5
Chlorprothixen hydrochloride	1	0.5
Choline salicylate	1	0.5
Clarithromycin	1	0.5
Clemastine	1	0.5
Colestyramine 20	1	0.5
Dexamethasone	1	0.5
Dexamethasone dihydrogen phosphate	1	0.5
Dexamethasone sodium phosphate	1	0.5
Diclofenac sodium	1	0.5
Diphtheria-tetanus-pertussis-poliomyelitis vaccine	1	0.5
Domperidone	1	0.5
Epinephrin	1	0.5
Glycerol	1	0.5
Glycopyrronium bromide	1	0.5

Drug [active ingredient(s)]	No of cases	Frequency [%] (total = 200 cases)
Hydrochlorothiazide	1	0.5
Hydrocortisone	1	0.5
Hydrocortisone butyrate	1	0.5
Hydroxychloroquine sulfate	1	0.5
Hydroxyzine dihydrochloride	1	0.5
Ivermectin	1	0.5
Levobupivacaine	1	0.5
Levothyroxine sodium	1	0.5
Lorazepam	1	0.5
Methylprednisolone	1	0.5
Metoclopramide hydrochloride	1	0.5
Mometasone furoate	1	0.5
Oseltamivir	1	0.5
Oxcarbazepine	1	0.5
Partially hydrolysed guar gum	1	0.5
Phenobarbital	1	0.5
Pneumococcal polysaccharide crm conjugate vaccine	1	0.5
Potassium citrate + potassium hydrogen carbonate	1	0.5
Propiverine hydrochloride	1	0.5
Pyridoxine hydrochloride	1	0.5
Rifampicin + isoniazid + pyrazinamide + ethambutol	1	0.5
Sacharomyces boulardii	1	0.5
Scopolamine butylbromide	1	0.5
Simeticone	1	0.5
Spironolactone	1	0.5
Tetanus + diphtheria adsorbate vaccine	1	0.5
Tizanidine	1	0.5
Tobramycin	1	0.5
Tobramycin + dexamethasone	1	0.5
Toocofersolan	1	0.5
Tranexamic acid	1	0.5
Tuberculin	1	0.5
Urokinase	1	0.5
Ursodeoxycholic acid	1	0.5
Vitamine B-complex	1	0.5

Supplementary Table S1B: Drugs administered on the oncology ward.

Drug [active ingredient(s)]	No of cases (total=100 cases)
Ondansetron	66
Sulfamethoxazole + trimethoprim	56
Paracetamol	50
Vincristine sulfate	34
Mesna	29
Metamizole sodium	29
Furosemide	28
Cholecalciferol	21
Esomeprazole	19
Macrogol + electrolytes	15
Methylprednisolone	15
Prednisone	15
Fluconazole	14
Lidocaine + prilocaine	14
Dexamethasone dihydrogen phosphate	13
Ceftazidime	12
Dexamethasone	12
Clemastine	10
Sodium picosulfate	10
Meropenem	9
Amikacin	8
Midazolam	8
Filgrastim	7
Mannitol	7
Morphine hydrochloride	7
Pantoprazole	7
Teicoplanin	7
Amoxicillin + clavulanic acid	6
Baclofen	6
Calcium carbonate + cholecalciferol	6
Methotrexate	6
Nalbuphine hydrochloride	6
Amlodipine	5
Aprepitant	5
Cytarabine	5
Levothyroxine sodium	5
Mercaptopurine	5
Ursodeoxycholic acid	5
Vancomycin	5
Alfacalcidol	4

Drug [active ingredient(s)]	No of cases (total=100 cases)
Calcium folinic acid	4
Dactinomycin	4
Estradiol valerate	4
Folic acid	4
Gabapentin	4
Lomustine	4
Miconazole	4
Pancreatin	4
Scopolamine butylbromide	4
Acyclovir	3
Dimetindene maleate	3
Enoxaparin sodium	3
Hydroxycarbamide	3
Metoclopramide hydrochloride	3
Nitrofurantoin	3
Oxcarbazepine	3
Pentamidine diisethionate	3
Phenoxymethylpenicillin benzathine	3
Sodium chloride	3
Sodium hydrogen carbonate	3
Tacrolimus	3
Allopurinol	2
Amphotericin B	2
Azithromycin	2
Budesonide	2
Clarithromycin	2
Epoetin beta	2
Hydrocortisone	2
Ibuprofen	2
Iron(III)	2
Levetiracetam	2
Lorazepam	2
Magnesium aspartate	2
Magnesium citrate	2
Mefenamic acid	2
Omeprazole	2
Phenoxymethylpenicillin potassium	2
Pneumococcal polysaccharide crm conjugate vaccine	2
Propranolol hydrochloride	2
Sucrose	2
Thioguanine	2

Drug [active ingredient(s)]	No of cases (total=100 cases)
Tramadol hydrochloride	2
Tranexamic acid	2
Urokinase	2
Valacyclovir	2
6-Thioguanine	1
Amoxicillin	1
Blood coagulation factor VIII + von Willebrand factor	1
Carboplatin	1
Cefazolin	1
Cefepime	1
Ceftibuten	1
Ceftriaxone	1
Cefuroxime	1
Chloral hydrate	1
Ciclosporin	1
Ciprofloxacin	1
Deferasirox	1
Delta-9-tetrahydrocannabinol + cannabidiol	1
Desmopressin acetate	1
Dextromethorphan	1
Diazepam	1
Diphtheria - tetanus - pertussis - poliomyelitis vaccine	1
Doxorubicin hydrochloride	1
DTPa-HepB-IPV + Hib vaccine	1
Enalapril maleate	1
Enalapril maleate + hydrochlorothiazide	1
Fentanyl	1
Ficus + senna	1
Glycerol	1
Heparine sodium	1
Hop cone + valerian	1
Human papillomavirus vaccine	1
Ketorolac trometamol	1
Lactulose	1
Linezolid	1
Lisinopril	1
Magaldrate	1
Meningococcus C vaccine	1
Mesalazin	1
Metronidazole	1
Norethisterone	1

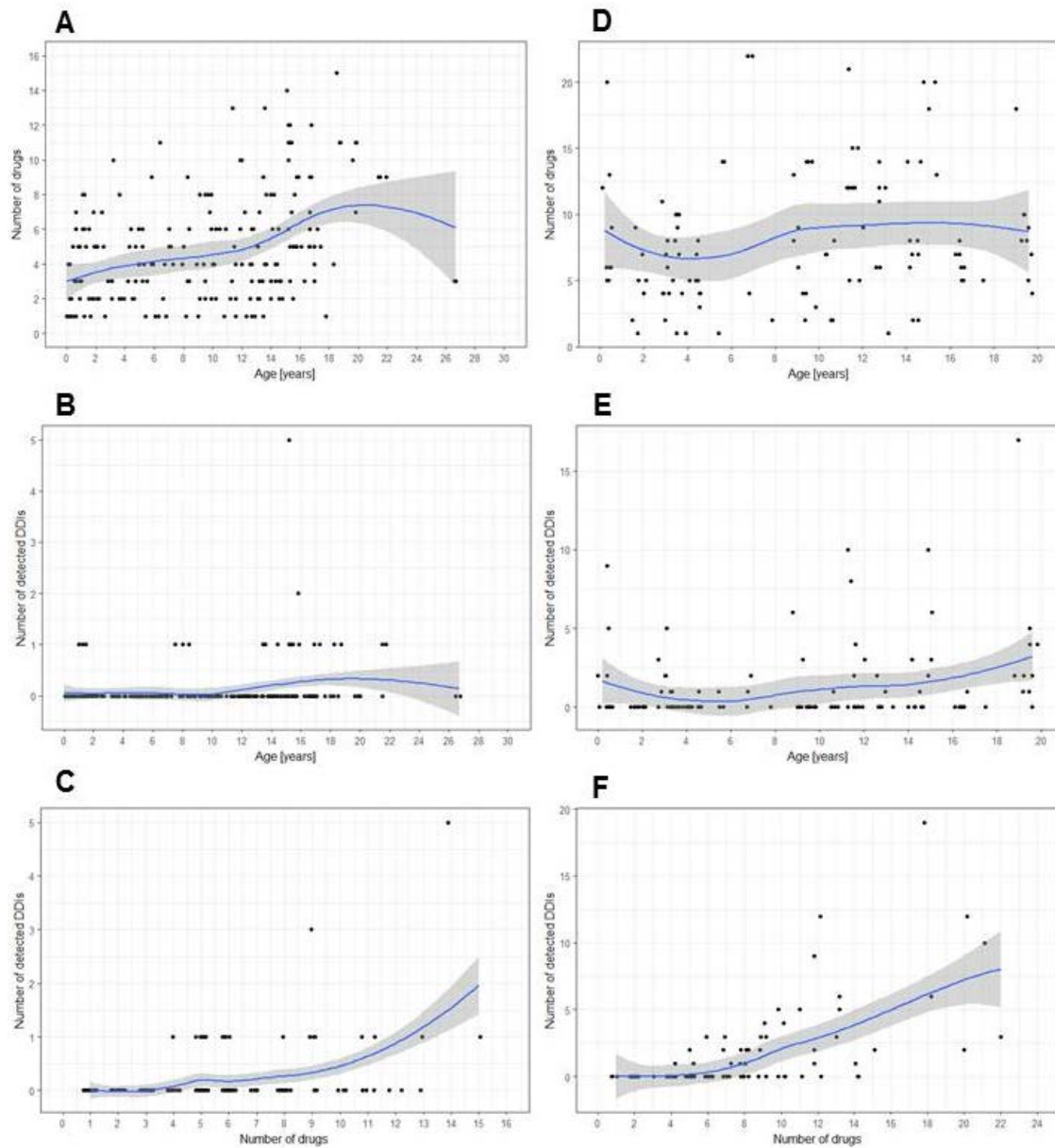
Drug [active ingredient(s)]	No of cases (total=100 cases)
Penicillamine	1
Phytomenadione (Vitamin K1)	1
Potassium chloride	1
Pyridoxine hydrochloride	1
Simeticone	1
Hypertonic peritoneal dialysis solution	1
Sodium lauryl sulfoacetate + sodium citrate + sorbitol	1
Sodium phosphate	1
Sodium valproate	1
Temozolomide	1

Supplementary Table S2: List of drugs which could not be identified by Pharmavista® and that could not be replaced by their active ingredient.

Product name (active ingredient)
Vedrop (toocofersolan)
Mictonetten (propiverine)
Cedax (ceftibuten)
Saccharose (saccharose)
Stromectol (ivermectin)
Penicillamin (penicillamine)
Lomustin (lomustine)
EinsAlpha (alfacalcidol)
D-Mannose (mannose)
Hemoleven (coagulation factor XI)
Selegilin (selegiline)

Surgery/orthopedic ward

Oncology ward



Supplementary Figure S1: Correlation between age, number of prescribed drugs and number of DDIs. *Left:*

surgery/ orthopedic ward (A-C), *Right:* oncology (D-F). Spearman correlation coefficient (p-value) of A: 0.40

(7.8×10^{-10}); B: 0.24 (3.4×10^{-4}); C: 0.35 (2.8×10^{-7}); D: 0.17 (0.064); E: 0.19 (0.044); F: 0.63 (1.5×10^{-12}).

Black line with grey shadow: non-parametric regression line with 95% confidence interval. Correlation between the length of

hospitalization, number of prescribed drugs and number of DDIs. *Left:* surgery/ orthopedic ward (G and H), *Right:*

oncology (I and J). Spearman correlation coefficient (p-value) of G: 0.71 ($< 2.2 \times 10^{-16}$); H: 0.27 (8.4×10^{-5}); I: 0.64

(5.5×10^{-13}); J: 0.55 (2.6×10^{-9}). Black line with grey shadow: non-parametric regression line with 95% confidence

interval.