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Adverse Drug Reactions in Pediatrics: From Identification to Solutions using a National Active Surveillance Network

2019 ACCP Virtual Journal Club Webinar

Live Session: Wednesday, November 6, 2019 from 2:00 PM to 3:00 PM ET

On Demand: November 6, 2019 to November 6, 2022

Why is this webinar important to you?
Adverse drug reactions (ADRs) are a major problem in current medicine, representing up to the 4th highest cause of mortality. Among biomarkers predicting ADRs, pharmacogenomic tests are one of the most promising methods. The Canadian Pharmacogenomics Network for Drug Safety (CPNDS) is a pan-Canadian active surveillance network founded in 2004 to identify genomic biomarkers predictive of ADRs. The article published by Tanoshima et al. at *The Journal of Clinical Pharmacology* (2019; 59:356-363) summarized the clinical information in the CPNDS database.

As of May 9, 2017, the database consisted of 93,974 reports of medication use, including 10,475 reports of ADRs, of which 72.6% occurred in patients ≤21 y/o, reflecting the Network's emphasis on childhood reactions. Dominant genetic ancestries were Europe (38.2%) followed by Canada (9.6%) and East Asia (4.9%). The five most frequent ADRs were serious cutaneous reactions, peripheral neuropathy, cardiotoxicity, central nervous system toxicities and ototoxicity reflecting key ADR targets for pharmacogenomic research. The five drugs most commonly suspected to cause ADRs were methotrexate, vincristine, doxorubicin, cisplatin and L-asparaginase. The Canadian Pharmacogenomics Network for Drug Safety has published numerous studies on pharmacogenomic biomarkers. This includes anthracycline-induced cardiotoxicity, anticonvulsant-induced severe cutaneous reactions, cisplatin-induced ototoxicity, codeine-induced mortality, interferon-induced hepatic toxicity, vincristine-induced peripheral neuropathy and warfarin therapeutic dose variability in children. The Canadian Pharmacogenomics Network for Drug Safety research on identifying the relationship between CYP2D6 variants and codeine-induced central nervous system depression and subsequent death resulted in health warnings by US Food & Drug Administration, Health Canada and the European Medicines Agency. The database CPNDS houses is a valuable resource to identify clinical and genomic predictors of ADRs.

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Joint Accreditation Statement
In support of improving patient care, the American College of Clinical Pharmacology® (ACCP) is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE) and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

UAN: 0238-0000-19-041-L/H05-P – ACPE 1 Contact Hours
Activity Type: Knowledge-based **Format:** Live & Home-study **Target Audience**: 'P'

Continuing Nursing Education: 1 Contact hours are awarded.

ACCME Designation Statement
The Accreditation Council for Continuing Medical Education designates this live and enduring activity for 1 *AMA PRA Category 1™* credit. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Target Audience
Interprofessional team of Physicians, Pharmacists, PhDs, Nurse Practitioners and Physician Assistants.

Learning Objectives
After completing this activity, the learner will be able to:

1) Describe examples of pharmacogenomics research which has resulted in actionable clinical practice guidelines;
2) Articulate the necessary components of an active surveillance network to serve as a reliable resource for drug safety research;
3) Identify challenges in the maintenance of an active surveillance database of adverse drug reactions.

Requirements to Receive Credit
In order to receive continuing medical education (CME) or continuing pharmacy education (CPE) credit, the learner must register for the educational activity, study the provided journal article, attend the Live webinar or view the On-Demand webinar, complete the online learning Self-assessment Post-test as well as the online course Evaluation and CME/CPE Certificate. Credits and CME/CPE Certificates must be claimed within thirty (30) days of completing the webinar, Post-test and Evaluation. Contact CE@ACCP1.org with any questions.

Disclosures:

Author/Faculty: Bruce Carleton, PharmD, FCP, FISPE, Chair, Div of Translational Therapeutics, Dept of Pediatrics, Univ of British Columbia- Nothing to disclose.

Moderator/Planner: Jomy George, PharmD, BCPS, AQ-ID, Director, Clinical Pharmacokinetics Research Lab, National Inst of Health-Nothing to disclose.

CE Reviewer: Michael Jann, PharmD, Professor, Univ of North Texas System Coll of Pharmacy-Nothing to disclose.

Schedule & Fees
ACCP webinar programs occur several times per year. Registration for the webinars are required, but are free of charge to all learners.

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Home Study Initial Release and Expiration Dates
Date of Issuance: November 6, 2019
Expiration Date: November 6, 2022

Helpful Tips
For best audio and visual quality, we recommend viewing the webinar in the Chrome browser. If you do not have Chrome, you may download it here.

Test your browser compatibility before the webinar by clicking here.

Download the article and slide handouts and access the webinar here.

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