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Comparison of the Induction Effect of Ifosfamide in Children and Adult Population During Continuous Infusion. Consequences on its Metabolites.

Sub-category:
Pharmacology/Pharmacokinetics

Category:
Developmental Therapeutics - Clinical Pharmacology and Immunotherapy

Meeting:
2001 ASCO Annual Meeting

Abstract No:
470

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Author(s):
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Abstract:

28 Children (6-19 yrs) and 11 adults (40-65yrs), suffering from bone and soft tissue sarcoma, were followed during their treatment session by ifosfamide (Ifos.) 3g/m2/d administered by continuous infusion. Samples were withdrawn each day at T0, T24, T48, T72, T96 and T120. PK analysis was performed on the basis of the Area Under Curve (AUC) for ifos. and metabolites, in each population. AUC0-24, AUC24-48,...and AUC96-120 were established for each compound. The percentage of induction was estimated for ifos. as the ratio between the blood levels T24 / T120. The metabolite index (MI) was defined as the ratio of the AUC : metabolite / parent compound. Ifosfamide. A higher induction percentage was observed in children (33.6% ¦ 20.2%) than in adults (20.8% ¦ 15.3%) during the overall infusion of ifosfamide. Variability in ifos. blood levels was commonly observed. More this decrease started at T96 in adults while at T48 in children. 2D Ifosfamide and 3D Ifosfamide. In parallel the daily estimation of the MI for these metabolites showed a continuous increase during the infusion duration; the same profile shape was observed for each population during the treatment session. For 2D Ifos., the final values in children and adults were respectively 18.6% ¦ 8.7% and 11.6% ¦ 2.6% and In the case of 3D Ifos. 22.9% ¦ 5.0% and 17.4% ¦ 4.5%. 4 OH Ifosfamide. This active metabolite remained the most interesting metabolite to focus on. The obtained blood levels remained low during the entire infusion. The estimation of the metabolite index confirmed the previously increase of the amount of 4 OH ifos. remaining available for therapeutic effects. Final values of the MI in children and adults were respectively 2.3% ¦ 0.8% and 2.9% ¦ 1.1%. The induction observed in children and adults highlighted differences. From the comparison of the percentage of induction, children demonstrated a higher induction than in adults: this is retrieved when MI for 2D and 3D ifos are compared. However, when it comes to 4 OH ifos, the MI for adults remaines higher. This is confirmed by the PK profiles observed for each compounds and patient populations.

Associated Presentation(s):

No items found.

Other Abstracts in this Sub-Category:

1. Pharmacokinetics (PK) and Pharmacodynamics (PD) of BMS-247550, an Epothilone Analog, in Patients with Advanced Solid Tumors.

Meeting: 2001 ASCO Annual Meeting Abstract No: 268 First Author: Bharat D. Damle
Category: Developmental Therapeutics - Clinical Pharmacology and Immunotherapy - Pharmacology/Pharmacokinetics

2. Population Pharmacokinetic (PK) Analysis of Bevacizumab (BV) in Cancer Subjects.

Meeting: 2001 ASCO Annual Meeting Abstract No: 272 First Author: Vanessa C. Hsei
Category: Developmental Therapeutics - Clinical Pharmacology and Immunotherapy - Pharmacology/Pharmacokinetics

3. Recombinant Human Endostatin Demonstrates Consistent and Predictable Pharmacokinetics Following Intravenous Bolus Administration to Cancer Patients.

Meeting: 2001 ASCO Annual Meeting Abstract No: 274 First Author: W.E. Fogler

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Abstracts by Bernard GOURMEL:

1. Adjustment of DOSE of ifosfamide (If.) in children after the first treatment session.

Meeting: 2008 ASCO Annual Meeting Abstract No: 10038 First Author: B. Gourmel III
Category: Pediatric Oncology - Pediatric Solid Tumors

2. Ifosfamide given once every other week: A clinical and pharmacological study.

Meeting: 2007 ASCO Annual Meeting Abstract No: 13008 First Author: W. Cacheux
Category: Developmental Therapeutics - Clinical Pharmacology and Immunotherapy - Pharmacology/Pharmacokinetics

3. Pharmacokinetic evaluation of the Auto-Inductive effect of a single dose of Ifosfamide administred each 15 days

Meeting: 2005 ASCO Annual Meeting Abstract No: 2111 First Author: b. gourmel
Category: Developmental Therapeutics - Clinical Pharmacology and Immunotherapy - Pharmacology/Pharmacokinetics

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Presentations by Bernard GOURMEL:

1. Adjustment of DOSE of ifosfamide (If.) in children after the first treatment session.

Meeting: 2008 ASCO Annual Meeting
Presenter: Bernard Gourmel, MD
Session: Pediatric Cancer (General Poster Session)

2. Variation of the metabolite index of ifosfamide metabolites during a 5-day continuous injection in children

Meeting: 2003 ASCO Annual Meeting
Presenter: Bernard Gourmel, MD
Session: Pediatric Oncology: Leukemia and Developmental Therapeutics (General Poster Session)

3. Comparaison Of The Induction Effect Of Ifosfamide In Children And Adult Population During Continuous Infusion. Consequences On Its Metabolites

Meeting: 2001 ASCO Annual Meeting
Presenter: Bernard Gourmel
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