

## PHARMACOLOGY

Title: Intramuscular Diclofenac as Premedication in Elective Cesarean Section

Authors: Taisir Al-Khateeb, Bassam Khair, Husni Sadiq, Nabil Sabri, Ibrahim Zahran, Taleb Sweity, Mohammed AL-Kilani, Ibrahim Hindawi and Ibrahim Daradkeh

Source: Jordan Medical Journal, Vol., 32, No. 1, May, 1990

Keywords: Diclofenac, Premedication, Caesarean section

Abstract:

From August 1993 to August 1994 we studied and analyzed the efficacy of Diclofenac 75-mg intramuscular (I.M) as Premedication one hour preoperative in 25 patients undergoing elective caesarean section. Another group of 25 patients served as controls.

Pethidine consumption in the first 24 hours after operation was reduced by 25 % after Diclofenac Premedication. The median time to the first request for analgesia was increased from 25 to 110 minutes in the Diclofenac group. There was no significant difference in incidence and severity of nausea or vomiting between the two groups. Assessment of uterine bleeding, infant Apgar score and blood gas analysis of umbilical cord showed no significant difference between the two groups.

Title: Contribution of Carbamazepine-10,11-Epoxy to Neurotoxicity in Epileptic Children On Polytherapy

Authors: Abdelkarim A. AL-Qudah, F\\'aud A. Hwang, Esiher Giesbrecht, and Stephen Soldin

Source: Jordan Medical Journal, Vol. 25, No. 2, Nov. 1991

Keywords: Carbamazepine-10 , Epoxy, Polytherapy

Abstract:

Carbamazepine-10-11-epoxy (CBZ-E) is a major metabolite of carbamazepine (CBZ). CBZ-E has received recent attention because of its possible adverse side effects. A CBZ~E plasma level above 9 uM/L has been reported to be more often associated with side effects than are lower levels. A retrospective review of the health records of 88 children ages 6-16 years (mean, 10. 7 years) on CBZ therapy, CBZ-E and other antiepileptic drug (AED) was conducted. Plasma levels were

measured at the time of their neurologic evaluation. Three groups of patients were identified; a monotherapy group (n=48), a polytherapy group without neurotoxicity (n=36), and a polytherapy group with neurotoxicity (n=4). All neurotoxic patients were on polytherapy and had plasma levels of CBZ and other AEDS within the therapeutic range, but their plasma CBZ-E values were high (mean=15.8 pM/L, range 11-23). CBZ-E plasma levels of the polytherapy group (11.6 mM/L ) were significantly higher than those of the monotherapy group (5.8 pM/L; p<0.001). Monitoring CBZ-E plasma levels may provide more information on adverse effects of CBZ in children on Polytherapy, although CBZ~E alone doesn't account for neurotoxicity.

Title: Postoperative Analgesia After Knee Surgery

Author(s): Abdullah Obeidat, Nabil Jayousi, Walid Tarawneh, Mutaz Karmi

Source: Jordan Medical Journal. Vol., 28, No. 2, Nov., 1994.

Keywords: Analgesia, Knee Surgeries

Abstract:

To assess the effect of intra-articular morphine in a randomized, double blind clinical trial on patients undergoing elective, open menisectomy. Forty-four patients with physical status grade 1 or 11 according to the American Society of Anesthesiologists were randomly allocated into two groups of twenty two patients each; study group one and control group two Group one received 4 mg morphine diluted in 30 ml of normal saline, injected in the knee joint fifteen minutes before the release of the tourniquet at the end of surgery. Group two received 30 ml normal saline only. Supplementary systemic analgesia was available to patient on demand. Post-operative pain was assessed at 2, 4, 8, 16 and 24 hr. using a visual analogue scale. The severity of pain and requirement for supplementary analgesia were assessed by an observer blinded to the treatment used. The study showed that patients in group one had significantly lower pain scores and needed less supplementary analgesia post operatively than group two Intra-articular morphine provides safe, effective and long lasting analgesia after open menisectomy

Title: Postoperative Reversal of Midazolam By Flumazenil: A Clinical Experience

Authors: Izdiad Badran & Subhi Al-Ghanem.

Source: Jordan Medical Journal, Vol. 26, No. 2, Nov. 1992

Keywords: Benzodiazepines , Flumazenil, Post Operative, Recovery, Midazolam

Abstract:

Flumazenil is a specific antagonist to benzodiazepines. It is supposed to have no against effect and to lack toxicity. We studied 34 patients postoperatively after receiving Midazolam anesthesia. Flumazenil, a specific benzodiazepine antagonist, was given at a rate of 0.1 mg / min. to evaluate its efficacy, duration of action, and side effects. The awakening of patients was better and their stay in the recovery room was shorter. It was well tolerated by patients and side effects were minimal. After Flumazenil, patients were fully oriented both at 5 and 30 minutes. The aftercare of patients by nurses was much less demanding. It was concluded that it rapidly reverses benzodiazepine induced sedation without producing toxic effects.

Title: Treatment And Relapse Prevention of Duodenal Ulcer With Nocturnal Ranitidine And Cimetidine in Jordanian Males

Authors: Safwan M. Khmawneh, Hani B. filiatat, Walid A. Obeidat, Kassab M. Harfoushi & Ruwaida I. Hijazen

Source: Jordan Medical Journal, Vol 24, No. 2, Nov. 1990.

Keywords: Duodenal Ulcer, Ranitidine,Cimetidine

Abstract:

Sixty-two male Jordanian patients with endosmotically diagnosed duodenal ulcer, were randomly allocated to nocturnal therapy with either cimetidine 800 mg or ranitidine 300 mg. After six weeks, complete ulcer healing was observed in 86% of patients treated with cimetidine and in 93.5% receiving ranitidine. The mean time to achieve symptomatic relief was similar for both drugs (9.3 and 8.7 days). The twelve-month relapse rate during maintenance therapy with half the original dose was 43.5% and 29.6% in patients receiving cimetidine and ranitidine respectively. Cigarette smoking was the main risk factor that favored duodenal ulcer relapse during maintenance therapy. These results confirm that nocturnal therapy with cimetidine or ranitidine is highly effective in healing and relapse prophylaxis of duodenal ulcer, and that the two drugs are nearly comparable.

Title: Randomized Blind Study Comparing The Effect of Diclofenac and Pethidine on the Amount of Blood Lost Following Tonsillectomy

Authors: Moh'd Talhouni, Moh'd Tawalbeh, Marwan Jumean

Source: Jordan Medical Journal vol. 29, No. 2, Nov. 1995

Keywords: Anaesthesia, Pediatrics, Surgery, ENT. Analgesics, Diclofenac, Pethidine, Blood loss

Abstract:

The aim of the study was to examine the effect of Diclofenac on bleeding during and after tonsillectomy. Eighty-nine children aged 4-12, who were scheduled for tonsillectomy at the King Hussein Medical Center were randomly selected to receive either Diclofenac 1.0 mg/kg or Pethidine 1.5mg/kg by intramuscularly injection in a free induction of anesthesia. The study show that there were no significant differences in blood loss between patient treated in the operation room and on the ward, but more blood loss was detected among patients in the recovery room after using Diclofenac.

Title: Efficacy of Once Weekly Subcutaneous Low Dose Recombinant Human Erythropoietin in Treating Anemia of End-Stage Renal Disease in Hemodialysis Patients

Authors: Riyadh Said and Sameer Huraib

Source: Jordan Medical Journal. vol. 29, No. 2, Nov. 1995

Keywords: Anemia, Erythropoietin, End-stage Renal Disease

Abstract:

Thirty anemic patients undergoing regular Hemodialysis once weekly for end-stage renal disease (ESRD) were treated with recombinant human Erythropoietin (r-Hu EPO) 150 u/kg subcutaneous once weekly. Their age ranged between 12-70 years. Eighteen patients were male. The study showed that low dose s/c r-Hu EPO administration is effective, simple and safe in correcting the anemia of ESRD when given once weekly. The significant side effects of r-Hu EPO were a rise in blood pressure, seizures, and clotting of vascular access.

Title: Comparative Study between Epidural Xylocaine and Pethidine for Pain In Labor

Author (s): M.S.M. Takrouri, A.A. Issa, I.A. Sumrien

Source: Dirasat Volume Xiii (1986) Number 11

Keywords: Epidural Analgesia, Epidural Pethidine Pain Relief in Labor

Abstract:

Forty-eight parturient mothers received epidural analgesia for relief of labour pain. The drugs used were either xylocaine or pethidine (50 mg diluted in 10 ml normal saline). The degrees of pain relief in labour as well as mechanisms of action of the two drugs have been described. It is concluded that epidural pethidine still can be used whenever local analgesic is not the first choice

Title: Gentamycin Plasma Levels: Effects Of Gender, Age And Kidney Disease

Author(s): O.Shaheen, R. Sai'd, A.Owidi, N. Samara, A. Abu-Rajab, F. Mdanat, S. Othman And W. Al-Turk University Of Jordan

Source: Dirasat Volume Xiv (1987) Number 6

Keywords: Gentamycin, Kidney Disease, Gender, Age

Abstract:

Gentamicin is a rapidly acting aminoglycoside antibiotic and is prescribed for systemic infections involving gram negative bacteria. Therapeutic serum concentration monitoring and subsequent tailoring of dosage regimens is required for improved treatment response. The effects of age, gender and kidney disease on plasma gentamycin levels have been evaluated. The clinical laboratory data have revealed unacceptably wide variations in plasma levels. Drug levels in elderly patients were significantly higher than in young patients. Also, plasma levels were higher in patients with kidney disease compared to those with normal function. Higher concentrations of gentamycin were observed in females, however the difference was not found to be statistically significant.

Title: Effect of Ranitidine on Theophylline Elimination

Author (s): Naif A. Sliman, Walid A.Al-Turk, And Omar M. Shaheen

Source: Dirasat Volume Xiv (1987) Number 6

Keywords: Ranitidine, Theophylline, Elimination

Abstract:

Some of recent studies in human subjects suggest that ranitidine may alter theophylline elimination. Our study investigated the effect of therapeutic dose of ranitidine (150 mg/twice daily) on theophylline metabolism in Jordanian volunteers. The results demonstrate that ranitidine alters neither theophylline clearance and elimination half-life nor the elimination of its metabolites in urine.

Title: A Comparative Study Of Two Glibenclamide Preparations

Author (s): Walid A. Al-Turk, Ibraheem Jalal, Sadeq Othman, Abdullah S.Awidi, Rana Khalaf And Omar Shaheen.

Source: Dirasat Volume Xiv (1987) Number 6

Keywords: Glibenclamide, Alide-Soluble, Hypoglycemia

Abstract:

Glibenclamide, a weak poorly soluble acid, is used widely as an oral hypoglycemic agent. Different formulations of this drug have been marketed. In this study, the pharmacodynamics and pharmacokinetics of two different glibenclamide commercial preparations, Glibil was Daonil, were compared. The rate and extent of *in vitro* dissolution of Glibil was significantly higher than Daonil. Despite the higher rate of Glibil dissolution, both preparations exhibited similar plasma glibenclamide concentration time profiles, in humans. Even though the apparent insulin release was higher with Glibil, the reduction of plasma glucose levels was not statistically different in both experimental groups. This study indicates that Glibil and Daonil are bioequivalent in human subjects.

Title: Potency Of Jordanian *Leiurus Quinquestriatus* Scorpion Venom And The Effect Of *Eringium Creticum* On This Potency

Author (s): Madi Jaghabir, Munib Saket, Fatma Afifi, Suleiman Al-Khalil, Ali Muheib

Source: Dirasat Volume Xvi (1989) Number 4

Keywords: Potency, L.Q. Potency, *Eringium Creticum*

Abstract:

The potency of the venom from the scorpion *Leiurus quinquestriatus* injected into mice was found to vary according to place of origin and the laboratory conditions. After collection of *Leiurus quinquestriatus* scorpions, they were kept for two weeks under laboratory condition. Species variations in sensitivity to scorpion venom were observed. LD50 in guinea pigs was 1.8 mg/kg compared 8.0 mg/kg of the same venom in mice. Upon testing the efficiency of *Eringium creticum* extract in combination with the *Leiurus quinquestriatus* scorpion venom, results showed that this plant prolonged the life saving period significantly from 20 minutes to 8 hr

Title: Comparative Analysis Of Theophylline By Fluorescence Polarization Immunoassay (Fpia) And High Performance Liquid Chromatography (Hplc)

Author (s): Omar Shaheen,

Source: Dirasat Volume Xvi (1989) Number 4

Keywords: Theophylline, Fluorescence Polarization, Hplc, Fpia

Abstract:

The fluorescence polarization immunoassay (FPIA) was used to estimate serum theophylline levels from fifty patients. These results were compared with those obtained by high performance liquid chromatography (HPLC). The data obtained by FPIA were comparable with those obtained by HPLC method ( $r = 0.9425$ ). The coefficient of variation, percentage of bias intra- and inter-day variability was similar in both methods. In conclusion the results obtained by the two methods are similar.

Title: Effect Of Bilateral Adrenalectomy On Catecholamine Synthesis In The Rat Heart

Author (s): Hamzeh H. Elayan and Munir N. Gharaibeh

Source: Dirasat Volume Xvi Number 4

Keywords: Adrenalectomy, Catecholamine Synthesis

Abstract:

The present study was carried out to investigate the possibility of local epinephrine (E) synthesis in rat cardiac tissue and to study the effect of bilateral adrenalectomy (ADX) on catecholamine synthesis. Bilateral adrenalectomy caused significant reductions of cardiac and plasma levels but a substantial amount of E (33.3 percent) was retained in the atrium 9 days after administration of norepinephrine (NE) and dopamine (DA). Cardiac epinephrine forming activity (EFA) was not significantly affected in ADX rats but ventricular EFA showed 42.3 percent increase compared to sham operated (SH) rats. Cardiac dopamine  $\beta$ -hydroxylase (DBH) activity was increased in the atrium (31 percent) and in the ventricle (60 percent,  $p < 0.01$ ) of ADX rats compared to SH rats. In SH rats, decapitation increased plasma E by 61 fold but lowered plasma DA levels significantly compared to the corresponding rest values indicating that plasma DA is incorporated in the synthesis of catecholamines in the adrenal medulla. It was concluded that cardiac tissue synthesizes its own E and bilateral adrenalectomy increases the sympathetic activity, catecholamine synthesis and NE turnover.

Title: Dose Response Effect Of Cimetidine On The Elimination Of Theophylline

Author (s): Omar Shaheen.

Source: Dirasat Volume Xvi (1989) Number 4

Keywords: Cimetidine, Elimination, Theophylline

Abstract:

The effects of constant plasma levels of cimetidine given by exponential infusion and specially designed to give constant plasma levels of 0,1,2,4 and 6 mg/ml on the elimination kinetics of theophylline and its metabolites were studied in seven healthy young non-smoker Caucasian volunteers aged 27 + 1.2 year. Cimetidine effects started at 1 mg/ml and gradually increased to a maximum effect at 6 mg/ml. The maximum decrease in theophylline clearance was 18% and maximum increase in elimination half-life was 38% ( $p < 0.05$ ). Cimetidine effects on the theophylline metabolites were also tested; 3-methylxanthine plasma levels were greatly affected and were dose dependent as tested by ANOVA ( $p < 0.05$ ). Its plasma AUC decreased by a maximum value of 53% ( $p < 0.05$ ), and the fraction of its elimination in urine decreased by a maximum value of 48% ( $p < 0.001$ ). In contrast, cimetidine effects on 1-methyluric acid and 1,3-dimethyluric acid were not significantly different from controls.



Title: Epinephrine Synthesis in Rat Skeletal Muscles

Author (s): Hamzeh Elayan

Source: Dirasat Volume Xvi (1989) Number 4

Keywords: Epinephrine, Skeletal Muscles

Abstract:

Local epinephrine (E) synthesis in skeletal muscle was investigated in sham-operated and bilaterally adrenalectomized rats. E Forming Activity (EFA) of Phenylethanolamine-N-methyltransferase enzyme (PNMT) in skeletal muscle was not affected by bilateral adrenalectomy alone, but was induced significantly following chronic propranolol administration (1 mg/kg i.p. twice daily for 8 days). Bilateral adrenalectomy did not decrease muscle E. content, but decreased resting and stress plasma E. levels. Plasma E. was still detectable 10 days after bilateral adrenalectomy. The results suggest that local synthesis of E. in rat skeletal muscle is possible. Chronic propranolol administration lowered muscle E.content significantly and decreased stress plasma E. value compared to the corresponding resting value, in bilaterally adrenalectomized, but not in sham-operated rats. Propranolol may, therefore, interfere with E. mediated mechanisms in the absence of adrenal glands resulting in lowering skeletal muscle and plasma E levels in stressful conditions.

Title: Pharmacokinetics Of Intravenous Theophylline In Jordanians

Author(s): Omar Shaheen, Naif A. Sliman, Nabil Samara, Sadeq, Othman, Rana Khalaf And Abdulla Awidi

Source: Dirasat Volume Xvi (1989) Number 4

Keywords: Theophylline, Pharmacokinetics

Abstract:

Pharmacokinetics of intravenous theophylline were investigated in fifteen healthy adult, male, non-smoking, Jordanian volunteers. A short aminophylline infusion was administered (4.3 mg/kg theophylline) over 15 minutes. Serum theophylline levels were measured using a fluorescence polarization immunoassay. At the end of infusion, serum theophylline levels were (mean + Sem) 10.5 + 1.2 mg/ml. The serum concentration-time data were best fit by a one compartment open model. Pharmacokinetic parameters were mean theophylline elimination half-life ( $t_{1/2}$ ) was 10.03 + 0.65 hr; apparent volume of distribution ( $V_d$ ) was 0.46 + 0.0058 L/kg and clearance was 0.031 + 0.002 L/kg. The theophylline elimination half-life reported in this investigation is longer than what was reported in most of the previous studies in

Western populations. The reason for this is not known, however, it may be due to differences in dietary habit and /or environmental factors.

Title: The Effect Of Desferrioxamine In Acute Haemolytic Anemia Of Glucose-6- Phosphate Dehydrogenase Deficiency

Author (s): Hala Al-Rimawi

Source: Deanship Of Research, Jordan University For Science And Technology

Keywords: Acute Haemolytic Anemia, Desferrioxamine, Favism, Glucose-6- Phosphate Dehydrogenase Deficiency

Abstract:

The effectiveness of desferrioxamine (DFO) in ameliorating the severity of the acute haemolysis of glucose-6-phosphate dehydrogenase (G6PD) deficiency was studied in 167 children with G6PD deficiency during an acute haemolytic crisis. All patients received packed cell transfusion on admission if their Hb levels were < 8 g/dl. Eighty patients also received a single dose of DFO 30-40 mg/kg by slow intravenous infusion (DFO group). The remaining 87 children did not receive DFO (control group). The need for more than one transfusion was less frequent in the DFO group as compared to the control group ( P = 0.01).

The need for late transfusion (transfusion after 36h of admission) was also less in the DFO group (7%) compared to 21% in the control group (P = 0.02). On average, children in the DFO group needed less packed red blood cells (16.5 ml/kg body weight). The difference was highly significant (P = 0.0001). We conclude from this study that DFO in a small dose is effective in the treatment of acute haemolytic crises of G6PD deficiency. It shortens the duration of the crisis and decreases the amount of blood transfusion needed

Title: Changes In Specific Surface Area Upon Outgassing Of Different Directly Compressible Excipients

Author (s): Adi I. Arida

Source: Dirasat, Medical And Biological Sciences, Vol. (26), No (1,2), 1999

Keywords: Specific Surface Area, Gas Adsorption, Degassing

Abstract:

This work describes an attempt to study the changes and identify the specific surface area of pharmaceutically interest powders in respect to temperature and time of cleaning the powder. Determining powders appropriate for degassing conditions is a prerequisite of this study. To do this, five solids were chosen, these are Zeparox (spray-dried lactose), Avicel PH102 (microcrystalline cellulose), Emcompress (dibasic calcium phosphate dihydrate), rice starch, and Cellactose (a combination of 75%  $\alpha$ -lactose monohydrate and 25% cellulose). Measurement of surface area by gas adsorption forms an important part of this work. Many authors have tried to establish a relationship between the degassing time and temperature, and the specific surface area using methods other than gas adsorption technique. However, different relationships have been established. This work is an endeavour to get reproducible results of this relationship. It was found that the specific surface area, using gas adsorption technique, is dependent neither on the degassing time of powders nor on the degassing temperature

Title: Effects Of Aflatoxin B1 On Rat Intestinal Disaccharidases Specific Activities

Author (s): Nabil Amer, And Suheil Zmeili

Source: Dirasat, Medical And Biological Sciences, Vol. (23), No (1), 1996

Keywords: Aflatoxin, Disaccharidases, Fungal Metabolites

Abstract:

Aflatoxin B1, a secondary fungal metabolite and a major contaminant of human and animal foodstuffs, is considered one of the most potent hepatocarcinogen known. It acts as a protein inhibitor. Intestinal epithelial cells are especially sensitive to inhibition of protein synthesis. Disaccharidases enzymes (sucrase, maltase and lactase), which are present in the brush-border membranes of the small intestine play an important role in the final stages of digestion. In this study, the effects of different doses of aflatoxin B1 injected intraperitoneally (I.P.) to male rats at different times on disaccharidases activities were investigated. Aflatoxin B1 in doses of 1.4 and 2.8 mg./kg body weight had the greatest effects after 120 minutes on sucrase specific activity, whereas maltase specific activity decreased with higher doses and longer times following injection

Title: Reduction Of Some Organophosphate Insecticides Toxicity In Mice By Diphenhydramine (Research Note)

Author (s): G.A-M. Faris, And F.K. Mohammad

Source: Dirasat, Medical And Biological Sciences, Vol. (23), No (2), 1996

Keywords: Organophosphate, Insecticides, Toxicity

Abstract:

The effect of the antihistamine diphenhydramine on the toxicity of some insecticides was determined in female mice. The LD50 values of diazinon, methidathion, malathion and fenitrothion were 76, 10.5, 650 and 917 mg/kg of female mice, orally, respectively. Diphenhydramine (20 mg/kg) injected subcutaneously 5 minutes after dosing mice with these insecticides markedly increased their LD50 values by 71, 114, 62 respectively of diphenhydramine in reducing the toxicity of organophosphate insecticides

Title: Effect of Diazinon on Acetylcholinesterase Activity In Mice Pretreated With Medetomidine

Author (s): L. Yaqoub and F. Mohammad

Source: Dirasat, Medical And Biological Sciences, Vol. (23), No (2), 1996

Keywords: Diazinon, Acetylcholinesterase, Medetomidine

Abstract:

Because of the protective action of medetomidine against diazinon poisoning, the effect of diazinon on acetylcholinesterase activity and the extent of inhibition were studied in mice pretreated with medetomidine. Diazinon (37.5 and 75 mg/kg, orally) in a dose-dependent manner significantly inhibited the activity of pseudocholinesterase in the plasma and true acetylcholinesterase in the erythrocytes and brain, in comparison with control values. Medetomidine at 0.3 mg/kg subcutaneously significantly decreased the enzyme activity in the erythrocytes and brain by 29 and 21%, respectively. Diazinon (75 mg/kg) did not significantly affect the extent of cholinesterase inhibition in the plasma, erythrocytes and brain of mice pretreated with medetomidine at 0.1 or 0.3 mg/kg. The results suggest that diazinon does not increase acetylcholinesterase inhibition in mice pretreated with medetomidine, and medetomidine may in turn prevent the irreversible inhibition of the enzyme by the insecticide diazinon.

Title: Ondansetron In The Prevention Of Postoperative Nausea And Vomiting In Gynecological Surgery

Author(s): Subhi M.Al-Ghanem

Source: Dirasat, Medical And Biological Science, Vol.24, No1 ,1997

Keywords: Ondansetron, Nausea, Vomiting, Antiemetics.

Abstract:

In a double blind randomized study, we compared the prophylactic antiemetic effect of Ondansetron, a 5 HT<sub>3</sub> receptor antagonist with that of a placebo on postoperative nausea and vomiting in 92 patients undergoing general anaesthesia for gynecological surgery. The patients received either 4-mg bolus Ondansetron or placebo I.V immediately after induction of general anaesthesia. Postoperative nausea and vomiting were assessed for 24 hrs. The incidence of vomiting was 10.86% in the Ondansetron group and 34.78% in the placebo group (P < 0.05). There was no significant difference in the incidence of nausea between the two groups.

Title: Body Fluid Levels Of Fentanyl, Pethidine and Midazolam Following Their Intravenous Intake In A Suicidal Case

Author(s): Abdel-Kader H.Battah, Kamal A.Hadidi, And Samih Y., Abu-Al Ragheb

Source: Dirasat, Medical And Biological Sciences, Vo1 24 No2, And 1997

Keywords: Fentanyl, Midazolam, Pethidine, Intoxication, Fatality, And Suicide

Abstract:

The level of Fentanyl, Pethidine and Midazolam in body fluids was measured after suspected drug overdose. The samples were obtained from different locations of a young female body during autopsy, which was performed on the following morning (about 18hrs after death)> Pathological examination disclosed recent venipuncture marks, congestion and edema in the lungs, kidneys, liver and brain. Toxicological analysis was conducted on blood, urine, stomach contents and the used syringes present beside the body. Levels of Fentanyl, Pethidine and Midazolam in these fluids ranged 0-1.3, 2300-5600 and 280-490 ng/ml respectively. The cause of death was attributed to drug intoxication. Pethidine was present at toxic level while Fentanyl and Midazolam were within their therapeutic levels. The combinations of these drugs were found in the stomach contents. This was explained by the weak basic properties of such drugs, where their converted ions (which occurred upon contact

with the acidic medium of the stomach) were trapped there during the distribution phase and resulted in a consequent increase of their concentrations