DOWNLOAD PDF THE CHEMISTRY AND KINETICS OF LIORESAL

Chapter 1 : The chemistry and kinetics of Lioresal.

1. Postgrad Med J. Oct;Suppl The chemistry and kinetics of Lioresal. Faigle JW, Keberle H. PMID: [PubMed - indexed for MEDLINE].

Prescribing Information Lioresal Description Lioresal, baclofen USP, is a muscle relaxant and antispastic, available as mg and mg tablets for oral administration. Its chemical name is 4-amino 4-chlorophenyl - butanoic acid, and its structural formula is Baclofen USP is a white to off-white, odorless or practically odorless crystalline powder, with a molecular weight of It is slightly soluble in water, very slightly soluble in methanol, and insoluble in chloroform. Cellulose compounds, magnesium stearate, povidone, and starch. Lioresal is capable of inhibiting both monosynaptic and polysynaptic reflexes at the spinal level, possibly by hyperpolarization of afferent terminals, although actions at supraspinal sites may also occur and contribute to its clinical effect. Although Lioresal is an analog of the putative inhibitory neurotransmitter gamma-aminobutyric acid GABA , there is no conclusive evidence that actions on GABA systems are involved in the production of its clinical effects. In studies with animals, Lioresal has been shown to have general CNS depressant properties as indicated by the production of sedation with tolerance, somnolence, ataxia, and respiratory and cardiovascular depression. Lioresal is rapidly and extensively absorbed and eliminated. Absorption may be dose-dependent, being reduced with increasing doses. INDICATIONS Lioresal is useful for the alleviation of signs and symptoms of spasticity resulting from multiple sclerosis, particularly for the relief of flexor spasms and concomitant pain, clonus, and muscular rigidity. Patients should have reversible spasticity so that Lioresal treatment will aid in restoring residual function. Lioresal may also be of some value in patients with spinal cord injuries and other spinal cord diseases. Lioresal is not indicated in the treatment of skeletal muscle spasm resulting from rheumatic disorders. Hallucinations and seizures have occurred on abrupt withdrawal of Lioresal. Therefore, except for serious adverse reactions, the dose should be reduced slowly when the drug is discontinued. Because Lioresal is primarily excreted unchanged through the kidneys, it should be given with caution, and it may be necessary to reduce the dosage. Lioresal has not significantly benefited patients with stroke. These patients have also shown poor tolerability to the drug. Lioresal has been shown to increase the incidence of omphaloceles ventral hernias in fetuses of rats given approximately 13 times the maximum dose recommended for human use, at a dose which caused significant reductions in food intake and weight gain in dams. This abnormality was not seen in mice or rabbits. There was also an increased incidence of incomplete sternebral ossification in fetuses of rats given approximately 13 times the maximum recommended human dose, and an increased incidence of unossified phalangeal nuclei of forelimbs and hindlimbs in fetuses of rabbits given approximately 7 times the maximum recommended human dose. In mice, no teratogenic effects were observed, although reductions in mean fetal weight with consequent delays in skeletal ossification were present when dams were given 17 or 34 times the human daily dose. There are no studies in pregnant women. Lioresal should be used during pregnancy only if the benefit clearly justifies the potential risk to the fetus. Precautions Because of the possibility of sedation, patients should be cautioned regarding the operation of automobiles or other dangerous machinery, and activities made hazardous by decreased alertness. Patients should also be cautioned that the central nervous system effects of Lioresal may be additive to those of alcohol and other CNS depressants. Lioresal should be used with caution where spasticity is utilized to sustain upright posture and balance in locomotion or whenever spasticity is utilized to obtain increased function. In patients with epilepsy, the clinical state and electroencephalogram should be monitored at regular intervals, since deterioration in seizure control and EEG have been reported occasionally in patients taking Lioresal. It is not known whether this drug is excreted in human milk. As a general rule, nursing should not be undertaken while a patient is on a drug since many drugs are excreted in human milk. In most cases these cysts disappeared spontaneously while patients continued to receive the drug. Pediatric Use Safety and effectiveness in pediatric patients below the age of 12 years have not been established. Rare instances of dyspnea, palpitation, chest pain, syncope. Instances of rash, pruritus, ankle edema, excessive perspiration, weight gain, nasal congestion. Some of the CNS and genitourinary symptoms

may be related to the underlying disease rather than to drug therapy. The following laboratory tests have been found to be abnormal in a few patients receiving Lioresal: Overdosage Vomiting, muscular hypotonia, drowsiness, accommodation disorders, coma, respiratory depression, and seizures. In the alert patient, empty the stomach promptly by induced emesis followed by lavage. In the obtunded patient, secure the airway with a cuffed endotracheal tube before beginning lavage do not induce emesis. Maintain adequate respiratory exchange, do not use respiratory stimulants. Lioresal Dosage and Administration The determination of optimal dosage requires individual titration. Start therapy at a low dosage and increase gradually until optimum effect is achieved usually between mg daily. The following dosage titration schedule is suggested: The lowest dose compatible with an optimal response is recommended. How is Lioresal Supplied Tablets 10 mg â€" oval, white, scored imprinted Lioresal on one side and 10 twice on the scored side Bottles of â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦. NDC Unit Dose blister pack Box of strips of 10 â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦NDC Tablets 20 mg â€" capsule - shaped, white, scored imprinted Lioresal on one side and 20 twice on the scored side Bottles of â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦â€¦. Dispense in tight container USP.

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Chapter 2 : Kinetics | Chemistry | Science | Khan Academy

Faigle JW, Keberle H: The chemistry and kinetics of Lioresal. Objective-To identify dogs and cats with baclofen toxicosis and characterize the patient population, clinical signs, and outcome.

Reaction rate The rate of a reaction is defined in terms of the rates with which the products are formed and the reactants the reacting substances are consumed. For chemical systems it is usual to deal with the concentrations of substances, which is defined as the amount of substance per unit volume. The rate can then be defined as the concentration of a substance that is consumed or produced in unit time. Sometimes it is more convenient to express rates as numbers of molecules formed or consumed in unit time. The half-life A useful rate measure is the half-life of a reactant, which is defined as the time that it takes for half of the initial amount to undergo reaction. For a special type of kinetic behaviour first-order kinetics; see below Some kinetic principles , the half-life is independent of the initial amount. A common and straightforward example of a half-life independent of the initial amount is radioactive substances. Uranium , for example, decays with a half-life of 4. The same behaviour is found in many chemical reactions. Even when the half-life of a reaction varies with the initial conditions, it is often convenient to quote a half-life, bearing in mind that it applies only to the particular initial conditions. If the gases are mixed together at atmospheric pressure and room temperature , nothing observable will happen over long periods of time. However, reaction does occur, with a half-life that is estimated to be more than 12 billion years, which is roughly the age of the universe. If a spark is passed through the system, the reaction occurs with explosive violence, with a half-life of less than one-millionth of a second. This is a striking example of the great range of rates with which chemical kinetics is concerned. There are many possible processes that proceed too slowly to be studied experimentally, but sometimes they can be accelerated, often by the addition of a substance known as a catalyst. Some reactions are even faster than the hydrogen-oxygen explosionâ€”for example, the combination of atoms or molecular fragments called free radicals where all that occurs is the formation of a chemical bond. Measuring slow reactions The best way to study exceedingly slow reactions is to change the conditions so that the reactions occur in a reasonable time. Increasing the temperature, which can have a strong effect on the reaction rate, is one possibility. When a reaction occurs to a measurable extent over a period of minutes, hours, or days, rate measurements are straightforward. Amounts of reactants or products are measured at various times, and the rates are readily calculated from the results. Many automated systems have now been devised for measuring rates in this way. Measuring fast reactions Some processes are so fast that special techniques have to be used to study them. There are two difficulties with fast reactions. One is that the time that it takes to mix reactants or to change the temperature of the system may be significant in comparison with the half-life, so that the initial time cannot be measured accurately. The other difficulty is that the time it takes to measure the amounts of substances may be comparable with the half-life of the reaction. The methods used to overcome these difficulties fall into two classes: In flow methods, two gases or solutions are introduced rapidly into a mixing vessel, and the resulting mixture then flows rapidly along a tube. Concentrations of reactants or products may then be measuredâ€”for example, by spectroscopic methodsâ€”at various positions along the tube, which correspond to various reaction times. A modification of this method is the stopped-flow technique, in which the reactants are forced rapidly into a reaction chamber; the flow is then suddenly stopped, and the amounts are measured by physical methods after various short times. These flow methods are limited by the time it takes to mix gases or solutions and are not suitable if the half-life is less than about a hundredth of a second. These mixing difficulties were overcome by pulse and probe methods. The principle of these is that a short pulse, usually of radiation, is given to a chemical system and is then followed by a probe, usually involving radiation that provides spectroscopic evidence of what occurred after the initial pulse. The first of these methods, developed in by British chemists R. In this technique a flash of light of high intensity but short duration brings about the formation of atomic and molecular species, the reactions of which can be studied kinetically by spectroscopy. Any chemical reaction, however, involves processes of a purely physical nature, such as energy redistribution and the breakdown of transient species, which occur in the femtosecond range.

The technique for causing one flash to occur a few nanoseconds after another is to route the light by a slightly longer path. Egyptian-born chemist Ahmed Zewail won the Nobel Prize for Chemistry in for his work in this field. Another pulse method is the relaxation method , developed in the s by German physicist Manfred Eigen who shared the Nobel Prize for Chemistry in with Norrish and Porter. In this method the investigation begins with a reaction system in equilibrium ; the reaction to be studied has finished, and no further changes take place. The external conditions are then altered very rapidly; the system is then no longer at equilibrium, and it relaxes to a new equilibrium. The speed of relaxation is measured by a physical method such as spectroscopy, and analysis of the results leads to the reaction rate. The most common way of changing the external conditions is to change the temperature, and the method is called the temperature-jump , or T-jump, method. Techniques have been developed for raising the temperature of a tiny reaction vessel by a few degrees in less than ns. The method is therefore not suitable for the fastest processes, which can be studied by flash photolysis, but many purely chemical processes are suitable for the T-jump technique, which has provided valuable kinetic information. See also relaxation phenomenon. Other experimental techniques are used for the study of rapid processes. Nuclear magnetic resonance has also been used for certain types of reactions. Some kinetic principles The kinetic behaviour of an ordinary chemical reaction is conventionally studied in the first instance by determining how the reaction rate is influenced by certain external factors such as the concentrations of the reacting substances, the temperature , and sometimes the pressure. For a reaction in which two substances A and B react with each other, it is sometimes found that the reaction rate is proportional to the concentration of A, represented by [A], and to the concentration of B, or [B]. In that case the reaction is said to be a second-order reaction; it is first order in [A] and first order in [B]. This is just one of many types of kinetics that can be observed. It is important to recognize that the kinetics of a reaction does not always correspond in a simple way to the balanced chemical equation for the reaction. This is in contrast to the situation with the equilibrium constant for the reaction, which corresponds to the balanced equation. The reason why the kinetic law is different is that the reactions in the forward and reverse directions may occur by stepwise mechanisms that lead to a different and usually more complex kinetic equation. Sometimes reaction rates depend on reactant concentrations in a more complicated way. This is a clear indication that a reaction happens in several steps see below Composite reaction mechanisms. The effect of temperature on reaction rates provides much information about reaction mechanisms. According to this relationship, a plot of the logarithm of the rate constant against the reciprocal of the absolute temperature should yield a straight line. From the slope and intercepts of the line, it is possible to calculate the value of the kinetic parameters A and E. The Arrhenius relationship applies satisfactorily to most reactions and indeed to many physical processes; however, various complications may cause it to fail. If the reaction between two molecules is an elementary one, occurring in a single step, a simple interpretation of the Arrhenius equation can be given. The quantity A is related to the frequency of collisions between the reacting molecules. The quantity E, known as the activation energy for the reaction, results from the fact that there is an energy barrier to reaction. If E was zero, k would be equal to A, which means that the reaction would occur every time a collision occurred between the reactant molecules. This is the case for reactions in which no chemical bond is broken, such as the combination of atoms. For reactions in which a chemical bond is broken, on the other hand, the activation energy E is not zero but has a value that is often a tenth or so of the energy required to break the bond. This increase cannot be caused by the increase in the frequency of collisions between colliding molecules, since the frequency does not increase sufficiently with a rise in temperature. The interpretation of the equation is thus that only those molecules having energy greater than E are able to undergo reaction; other collisions are ineffective, and the reactant molecules merely separate unchanged. See below Theories of reaction rates. Composite reaction mechanisms Various lines of evidence are used to determine if a reaction occurs in more than one step. Suppose that the kinetic equation for the reaction does not correspond to the balanced equation for the reaction. A simple example is the reaction between hydrogen and iodine chloride, with the formation of iodine and hydrogen chloride: To make the equation balance, the reaction must be written as shown, with two iodine chloride molecules reacting with a single hydrogen molecule. If this reaction occurred in a single elementary step, the rate would be proportional to the first power of the hydrogen concentration and the square

of the iodine chloride concentration. Instead, however, the rate is found to be proportional to both concentrations to the first power, so that it is a second-order reaction: This can be explained if there is initially a slow reaction between one hydrogen molecule and one of iodine chloride: If the second reaction is fast, the hydrogen iodide is removed as fast as it is formed. The rate of the second reaction therefore has no effect on the overall rate, which is the rate of the first step. This mechanism therefore explains the kinetic behaviour but does not prove it; other, more complicated schemes could be devised, but, until there is further evidence, it is expedient to accept the simple mechanism. This is an example of a consecutive reaction, which occurs in two steps, with the intermediate playing a role. Another piece of evidence for a composite mechanism is the detection of reaction intermediates. In such a case, a reaction scheme must be devised that will account for these intermediates. Sometimes an intermediate can be a fairly stable substance. In other cases the intermediates are unstable species such as atoms and free radicals fragments of molecules that subsequently undergo rapid reactions. Free radicals can be detected by spectroscopy and other means. When organic molecules are raised to high temperatures, they decompose into smaller molecules, and organic free radicals have often been detected as intermediates. In an explosion, such as that between hydrogen and oxygen , free radicals such as hydroxyl can be detected. Composite reaction mechanisms are of various kinds. Aside from the simple consecutive schemes, there are some special mechanisms that give rise to oscillatory behaviour: The conditions for this behaviour are that there must be at least two species involved in the reaction and there must be feedback , which means that products of the reaction affect the rate. There are also reaction mechanisms that give rise to what is technically known as chaos , or catastrophe. With such reactions it is impossible to predict the outcome. Chaotic conditions also require that there be feedback and that at least three species be involved. Sometimes a complex reaction mechanism involves a cycle of reactions such that certain intermediates consumed in one step are regenerated in another. In the first of these steps a bromine atom is consumed, but in the second a bromine atom is regenerated. This pair of reactions can thus occur with the production of two molecules of hydrogen bromide, the product of the reaction, without loss of bromine atoms. This pair of reactions is called a cycle of reactions, and it can occur a number of times, in which case the reaction is referred to as a chain reaction. The two reactions in which bromine is regenerated are known as the chain-propagating steps. The average number of times the pair of steps is repeated is known as the chain length.

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Summary. Baclofen, a centrally acting muscle relaxant, is used in the treatment of spasticity. Its pharmacokinetics has been derived from plasma and urine data in four healthy subjects, whose renal function was simultaneously measured.

More Warning Unsafe side effects have happened when Lioresal baclofen intrathecal injection was stopped all of a sudden. Some of these side effects have been high fever, mental changes, more spasms, and muscle stiffness. Rarely, these side effects have led to very bad muscle problems, organ problems, and death. Avoid stopping Lioresal baclofen intrathecal injection all of a sudden without talking with your doctor. Be sure you get your pump refilled on time and you know about the pump alarms and what to do if the pump alarm goes off. Tell your doctor if you have ever had signs of withdrawal while getting baclofen tablets or shot. Call your doctor right away if you have signs of withdrawal. Read the package insert for more details. It is used to calm muscles. It is used to treat spasms in patients with MS multiple sclerosis or spinal cord disease. It may be given to you for other reasons. Talk with the doctor. If you have an allergy to baclofen or any other part of Lioresal baclofen intrathecal injection. If you are allergic to any drugs like this one, any other drugs, foods, or other substances. Tell your doctor about the allergy and what signs you had, like rash; hives ; itching; shortness of breath; wheezing; cough; swelling of face, lips, tongue, or throat; or any other signs. If you are breast-feeding or plan to breast-feed. If you have an infection. This is not a list of all drugs or health problems that interact with Lioresal baclofen intrathecal injection. Tell your doctor and pharmacist about all of your drugs prescription or OTC, natural products, vitamins and health problems. You must check to make sure that it is safe for you to take Lioresal baclofen intrathecal injection with all of your drugs and health problems. Do not start, stop, or change the dose of any drug without checking with your doctor. What are some things I need to know or do while I take Lioresal? Tell all of your health care providers that you take Lioresal baclofen intrathecal injection. This includes your doctors, nurses, pharmacists, and dentists. Avoid driving and doing other tasks or actions that call for you to be alert until you see how Lioresal baclofen intrathecal injection affects you. Do not stop taking Lioresal baclofen intrathecal injection all of a sudden without calling your doctor. You may have a greater risk of side effects. If you need to stop Lioresal baclofen intrathecal injection , you will want to slowly stop it as ordered by your doctor. Talk with your doctor before you drink alcohol or use other drugs and natural products that slow your actions. Use with care in children. Tell your doctor if you are pregnant or plan on getting pregnant. You will need to talk about the benefits and risks of using Lioresal baclofen intrathecal injection while you are pregnant. How is this medicine Lioresal best taken? Use Lioresal baclofen intrathecal injection as ordered by your doctor. Read all information given to you. Follow all instructions closely. It is given into the spine. What do I do if I miss a dose? Call your doctor to find out what to do. Dosage Information in more detail What are some side effects that I need to call my doctor about right away? Even though it may be rare, some people may have very bad and sometimes deadly side effects when taking a drug. Tell your doctor or get medical help right away if you have any of the following signs or symptoms that may be related to a very bad side effect: Signs of an allergic reaction, like rash; hives; itching; red, swollen, blistered, or peeling skin with or without fever; wheezing; tightness in the chest or throat; trouble breathing, swallowing, or talking; unusual hoarseness; or swelling of the mouth, face, lips, tongue, or throat. Very bad dizziness or passing out. Change in how often urine is passed. Feeling very tired or weak. Change in how you act.

Chapter 4 : Lioresal - FDA prescribing information, side effects and uses

This general chemistry study guide video lecture tutorial provides an overview of chemical kinetics. It contains plenty of examples, practice problems, and conceptual questions to help you to.

Baclofen is eliminated predominantly by the kidneys [1], putting patients with impaired renal function at particular risk for baclofen accumulation. Several investigators have suggested that haemodialyis is effective in the removal of baclofen [2], however the pharmakokinetics of baclofen elimination during haemodialysis remains unclear. We herein report a baclofen-associated encephalopathy, which was resolved by haemodialysis, and pharmacokinetic data is presented. To our knowledge, this is the first reported case of baclofen-related encephalopathy with pharmacokinetic data during haemodialysis treatment. Case A year-old woman with end-stage renal disease ESRD was treated by haemodialysis regularly for 14 years. She presented with left leg soreness and was given 5 mg of oral baclofen three times daily from the local clinic, receiving a cumulative dose of 45 mg in 3 days. The patient became disoriented, in a state of confusion and was referred to our hospital for evaluation. Laboratory data showed haemoglobin 8. Serum sodium was The transaminases were normal. A brain CT scan showed cortical atrophy and leukoaraiosis. Under the diagnosis of baclofen intoxication, she received emergency haemodialysis. The dialyser had ethylene vinyl alcohol copolymer resin filters with a surface area of 2. There was a complete recovery of consciousness 8 h later. She received another haemodialysis session 30 h after admission. The patient was discharged from the hospital 72 h later in good condition. Results Serum baclofen concentrations Blood samples were collected immediately after arrival, and at 4 start of first haemodialysis , 5, 6, 7, 8 end of first haemodialysis , 30 start of second haemodialysis , 32 and 34 h the end of second haemodialysis thereafter. Samples of serum were prepared according to the methods published in previous reports with minor modifications [3]. Quantitative analysis was carried out on the Agilent ChemStation. The serial serum concentrations of baclofen after admission are shown in Figure 1. Changes of serum baclofen levels with time. A The first haemodialysis session. B second haemodialysis session. Pharmacokinetic calculations During dialysis, solute elimination occurs via the first-order kinetic process [4]. The distribution of a drug in a dialysed, renal failure patient can be expressed by a one-compartment model [4]. As a result, baclofen plasma concentration C vs time profile may be described with the following equation: Furthermore, during dialysis, the total elimination constant rate Ke equals the non-renal removal rate constant Knr , plus the renal removal rate constant Kr , plus the dialysis removal rate constant Kd. Kr equals zero in this anuria patient, and Knr can be calculated from the two samples collected before haemodialysis. Therefore, the Kd can be calculated by the given Ke and Knr. This centrally acting GABA agonist is prescribed as therapy for spasticity in the spinal cord region. The half-life is between 4. Concentrations of baclofen in cerebral spinal fluid CSF have been described to be 8. It has a volume of distribution of 0. Several authors have suggested that patients with renal failure are more susceptible to baclofen toxicity [2]. This may explain why our patient was comatose, although her plasma baclofen concentrations were all within the therapeutic range of normal subjects. Several observations of baclofen-associated encephalopathy have been reported in patients with ESRD [10]. Patients with severely impaired renal function generally develop baclofen intoxication soon after the initiation of therapy [2]. Altered consciousness has been the major manifestation in patients with severely impaired renal function. Other symptoms, such as respiratory depression muscular hypotonia and generalized hyporeflexia have been observed in patients of baclofen intoxication with normal renal function [2]. Most ESRD patients experienced marked improvement in clinical toxicity following haemodialysis, compared with patients who did not receive haemodialysis [2]. Haemodialysis shortened the baclofen half-life from Therefore, it is reasonable to suggest that haemodialysis should be used as a treatment modality in cases of baclofen intoxication with renal failure. According to a previous report, patient consciousness improved with several hours time lag after haemodialysis [2]. This delay may be due to the redistribution of baclofen in crossing the bloodâ€”brain barrier [2]. This may explain longer central nervous system depression despite reductions in serum drug concentrations to negligible amounts. The consciousness improved after just one session of

haemodialysis in this patient, which was different from previous reports where two or more sessions were necessary [2]. Because there were no serum levels and other pharmacokinetic data in previous reports [2], it is difficult to compare the effectiveness of haemodialysis in this report. In our patient, early diagnosis, early start of haemodialysis and lower serum concentrations of baclofen may have resulted in the difference. The larger surface area of our artificial kidney may be another possible cause. In conclusion, it is necessary to reduce baclofen dosage in patients with renal disease and especially in ESRD patients. Haemodialysis is an appropriate treatment of baclofen intoxication in ESRD patients. The authors thank Dr Chun-Chen Yang for comments and criticism of this article. Conflict of interest statement. Plasma and urinary excretion kinetics of oral baclofen in healthy subjects. Eur J Clin Pharmacol.

Chapter 5 : InfoButton Access: DrugPoints Document

Intrathecal (Solution) Abrupt discontinuation of intrathecal baclofen, regardless of the cause, has resulted in a condition that includes high fever, altered mental status, exaggerated rebound spasticity, and muscle rigidity, and in rare cases has led to rhabdomyolysis, multiple organ-system failure, and death.

Centrally acting muscle relaxant used in the treatment of muscle spasms secondary to conditions such as multiple sclerosis and spinal cord injuries. Occasionally used as a drug of abuse. Derivative of gamma aminobutyric acid GABA ; acts at the spinal end of upper motor neurons, inhibits monosynaptic and polysynaptic reflexes at the spinal level. Deliberate overdose is unusual. Inadvertent intrathecal overdose occurs rarely secondary to pump malfunctions or dispensing errors. Episodically used as a drug of abuse. Lethargy, somnolence, confusion, agitation, hallucinations, delirium, nausea, and vomiting are fairly common. Mild elevations in liver enzymes, urinary retention, and incontinence are less common effects. Bradycardia, hypotension, coma, respiratory failure, seizures, mydriasis, flaccidity, and mild hypothermia may develop. Rare effects include status epilepticus, rhabdomyolysis, and first-degree AV block. Coma, flaccidity and loss of reflexes can last for several days after severe overdose and should not be mistaken for brain death. Abrupt discontinuation of baclofen usually intrathecal , for any reason, can result in withdrawal symptoms, which have included hyperthermia, tachycardia, altered mental status ie, hallucinations, delirium, agitation , exaggerated rebound spasticity, muscle rigidity, seizures, hypertension, and hypotension, and in rare cases manifestations may progress to rhabdomyolysis, multiple organ-system failure and death. Most baclofen exposures require only supportive care. Treat agitation or seizures with benzodiazepines. Treat seizures with benzodiazepines. Treat hypotension with fluids and pressors if needed. Manage airway in patients with CNS depression or recurrent seizures. Coma, flaccidity and absent reflexes can persist for more than 5 days after severe overdose and should not be mistaken for brain death. Activated charcoal is not recommended because of the risk of CNS depression and aspiration. Administer activated charcoal, in patients who are alert or in whom the airway is protected following a recent significant exposure. Fatalities are rare, most patients do well with supportive care; gastric lavage is generally not warranted. IV benzodiazepines and barbiturates. Evaluate for hypoxia, administer oxygen and manage airway as necessary. If associated with hypotension, administer atropine. After intrathecal overdose from an indwelling pump, remaining baclofen intrathecal solution should be emptied from the pump reservoir as soon as possible. Withdrawal from oral baclofen can be managed by reinstituting the usual oral dose; intravenous benzodiazepines may also be useful. Withdrawal from chronic intrathecal baclofen may be particularly severe. Reinstitute intrathecal infusion if possible fill pump, replace battery, etc or baclofen may be administered by lumbar puncture. If intrathecal administration not possible, administer oral baclofen and supplement with intravenous benzodiazepines. Oral cyproheptadine may also be of benefit Adult dose: Institute continuous cardiac monitoring and monitor vital signs frequently. Monitor mental status, adequacy of respirations and the ability to protect the airway. Monitor CPK in patients with prolonged seizures or coma. Monitor renal function and urine output in patients with prolonged seizures or coma, or hemodynamic instability. May be useful after severe overdose, particularly in patients with impaired renal function. Rarely indicated as most patients do well with supportive care. A patient with an inadvertent ingestion that remains asymptomatic can be managed at home. Patients with a deliberate overdose, and those who are symptomatic, need to be monitored until they are clearly improving and clinically stable. Admit patients with seizures, mental status depression, respiratory depression, delirium, or hypotension to an intensive care unit. Call a Poison Center for assistance in managing patients with severe toxicity or in whom the diagnosis is not clear. Ingestions of greater than mg usually produces significant toxicity in healthy adults, including seizures, coma, delirium and the need for mechanical ventilation. CNS and respiratory depression may occur after 50 mg in the elderly. Intrathecal doses of 1. Fatalities are rare, but have been reported in adults with ingestions of a gram or more. The recommended oral dosage range is 40 to 80 mg daily in 3 to 4 divided doses. Safety and efficacy have not been established in pediatric patients.

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Chapter 6 : Baclofen - Wikipedia

A Controlled Trial of Baclofen in Children with Cerebral Palsy () The chemistry and kinetics of Lioresal. Postgraduate Medical Journal 48, (Oct. Suppl.), 9.

Chapter 7 : Kinetics - Chemistry LibreTexts

Skeletal Muscle Relaxants Antispasticity Agents Drug Structure22 Mechanism The chemistry and kinetics of Lioresal. Postgrad Med J. ; Suppl 5: 3.

Chapter 8 : Lioresal: Indications, Side Effects, Warnings - www.nxgvision.com

Chemical Kinetics. 2 Consider the decomposition of N2O5 to give NO2 and O2: 2N2O5(g)â†'4NO2(g) + O2(g) reactants decrease with time products increase with time. 3.

Chapter 9 : Purchase lioresal generic name | SCGlobal

The field of kinetics is the field that explore this aspect of chemistry and is the "non-equilibration" aspect to the troika of thermodynamics, equilbria and electrochemistry. All are connected as discussed in the following chapters.