

PLIAGLIS™

(lidocaine and tetracaine) Cream

7% / 7%

Brief Summary

INDICATION AND USAGE

PLIAGLIS™ is indicated for use on intact skin in adults to provide topical local analgesia for superficial dermatological procedures such as dermal filler injection, pulsed dye laser therapy, facial laser resurfacing, and laser-assisted tattoo removal.

CONTRAINDICATIONS

PLIAGLIS™ is contraindicated in patients with a known history of sensitivity to lidocaine or tetracaine, or local anesthetics of the amide or ester type. PLIAGLIS™ is also contraindicated in patients with para-aminobenzoic acid (PABA) hypersensitivity and in patients with a known history of sensitivity to any other component of the product.

WARNINGS

Application of PLIAGLIS™ for longer times than those recommended or application of PLIAGLIS™ over larger surface areas than those recommended could result in absorption of lidocaine and tetracaine at doses that could lead to serious adverse effects (see OVERDOSAGE section).

Even *used* PLIAGLIS™ may contain a large amount of lidocaine and tetracaine. The potential exists for a small child or pet to suffer serious adverse effects from chewing or ingesting new or used PLIAGLIS™, although this risk with PLIAGLIS™ has not been evaluated. After use, the child-proof cap should be put back securely on the tube. It is important to store and dispose of PLIAGLIS™ out of the reach of children and pets (see HANDLING AND DISPOSAL section).

Methemoglobinemia:

Several local anesthetics, including tetracaine, have been associated with methemoglobinemia. The risk of methemoglobinemia is greatest for patients with congenital or idiopathic methemoglobinemia, and infants under the age of twelve months who are receiving treatment with methemoglobin-inducing agents.

Very young patients or patients with glucose-6-phosphate dehydrogenase deficiencies are more susceptible to methemoglobinemia.

Patients taking drugs associated with drug-induced methemoglobinemia such as sulfonamides, acetaminophen, acetanilide, aniline dyes, benzocaine, chloroquine, dapsone, naphthalene, nitrates and nitrites, nitrofurantoin, nitroglycerin, nitroprusside, primaquine, para-aminosalicylic acid, phenacetin, phenobarbital, phenytoin, primaquine, and quinine are also at greater risk for developing methemoglobinemia.

There were no reports of methemoglobinemia in the trials of PLIAGLIS™. However, providers are cautioned to carefully apply PLIAGLIS™ to ensure that the doses, areas of application, and duration of application are consistent with those recommended for the intended population.

PRECAUTIONS

General: PLIAGLIS™ should be used with caution in patients who may be more sensitive to the systemic effects of lidocaine and tetracaine, including the acutely ill or debilitated.

When PLIAGLIS™ is used concomitantly with other products containing local anesthetic agents, the amount absorbed from all formulations should be considered since the systemic toxic effects are thought to be additive and potentially synergistic with lidocaine and tetracaine.

Allergic or anaphylactoid reactions associated with lidocaine, tetracaine, or other components of PLIAGLIS™ can occur. They are characterized by urticaria, angioedema, bronchospasm, and shock. If an allergic reaction occurs, it should be managed by conventional means.

Contact of PLIAGLIS™ with the eyes should be avoided based on the findings of severe eye irritation with the use of similar products in animals. Also, the loss of protective reflexes may predispose to corneal irritation and potential abrasion. If eye contact occurs, immediately wash out the eye with water or saline and protect the eye until sensation returns.

PLIAGLIS™ is not recommended for use on mucous membranes or on areas with a compromised skin barrier because these uses have not been adequately studied. Application to broken or inflamed skin may result in toxic blood concentrations of lidocaine and tetracaine from increased absorption.

Patients with severe hepatic disease or pseudocholinesterase deficiency, because of their inability to metabolize local anesthetics normally, are at a greater risk of developing toxic plasma concentrations of lidocaine and tetracaine.

Lidocaine has been shown to inhibit viral and bacterial growth. The effect of PLIAGLIS™ on intradermal injections of live vaccines has not been determined.

Information for Patients: Patients should be advised that topical application of local anesthetics such as PLIAGLIS™ may lead to diminished or blocked sensation in the treated skin. For this reason, patients should be instructed to avoid trauma to the treated

Rx only

area. Trauma can result from scratching or rubbing before complete sensation has returned, or from exposure to extreme temperatures or to excessive sunlight.

Drug Interactions:

Antiarrhythmic Drugs: PLIAGLIS™ should be used with caution in patients receiving Class I antiarrhythmic drugs (such as tocainide and mexiletine) since the systemic toxic effects are thought to be additive and potentially synergistic with lidocaine and tetracaine.

Local Anesthetics: When PLIAGLIS™ is used concomitantly with other products containing local anesthetic agents, the amount absorbed from all formulations should be considered since the systemic toxic effects are thought to be additive and potentially synergistic with lidocaine and tetracaine.

Carcinogenesis, Mutagenesis, Impairment of Fertility:

Carcinogenesis: Long-term studies in animals have not been performed to evaluate the carcinogenic potential of either lidocaine or tetracaine.

Mutagenesis: The mutagenic potential of lidocaine base and tetracaine base has been determined in the *in vitro* Ames Bacterial Reverse Mutation Assay, the *in vitro* chromosome aberration assay using Chinese hamster ovary cells, and the *in vivo* mouse micronucleus assay. Lidocaine was negative in all three assays. Tetracaine was negative in the *in vitro* Ames assay and the *in vivo* mouse micronucleus assay. In the *in vitro* chromosome aberration assay, tetracaine was negative in the absence of metabolic activation, and equivocal in the presence of metabolic activation.

Impairment of Fertility: Lidocaine did not affect fertility in female rats when given via continuous subcutaneous infusion via osmotic minipumps up to doses of 250 mg/kg/day (1500 mg/m² or 2-fold higher than the single dermal administration [SDA]). Although lidocaine treatment of male rats increased the copulatory interval and led to a dose-related decreased homogenization resistant sperm head count, daily sperm production, and spermatogenic efficiency, the treatment did not affect overall fertility in male rats when given subcutaneous doses up to 60 mg/kg (360 mg/m² or <1-fold the SDA). Tetracaine did not affect fertility in male or female rats when given subcutaneous doses up to 7.5 mg/kg (45 mg/m² or <1-fold the SDA). Multiples of exposure are based on an SDA of 1 g of PLIAGLIS™ applied to 10 cm² for 60 minutes to a 60 kg person (645 mg/m²).

Use in Pregnancy:

Teratogenic Effects: Pregnancy Category B. Lidocaine was not teratogenic in rats at doses up to 60 mg/kg (360 mg/m² or <1-fold the SDA), nor in rabbits at doses up to 15 mg/kg (180 mg/m² or <1-fold the SDA). Tetracaine was not teratogenic in rats given subcutaneous doses up to 10 mg/kg (60 mg/m²), nor in rabbits at doses up to 5 mg/kg (60 mg/m² or <1-fold the SDA), or in rabbits up to 5 mg/kg (60 mg/m² or <1-fold the SDA). PLIAGLIS™ active components (lidocaine and tetracaine given as a 1:1 eutectic mixture) was not teratogenic in rats (60 mg/m² or <1-fold the SDA) or rabbits (120 mg/m² or <1-fold the SDA).

Nonteratogenic Effects: Lidocaine containing 1:100,000 epinephrine at a dose of 6 mg/kg (<1-fold the SDA) injected into the masseter muscle of the jaw or into the gum of the lower jaw of Long-Evans hooded pregnant rats on gestation day 11, lead to developmental delays in neonatal behavior among offspring. Developmental delays were observed for negative geotaxis, static righting reflex, visual discrimination response, sensitivity and response to thermal and electrical shock stimuli, and water maze acquisition. The developmental delays of the neonatal animals were transient with responses becoming comparable to untreated animals later in life. The clinical relevance of the animal data is uncertain.

Pre- and postnatal maturational, behavioral, or reproductive development was not affected by maternal subcutaneous administration of tetracaine during gestation and lactation up to doses of 7.5 mg/kg (45 mg/m² or <1-fold the SDA).

No adequate and well-controlled studies have been conducted in pregnant women. Because animal studies are not always predictive of human response, PLIAGLIS™ should be used during pregnancy only if the potential benefit justifies risk to the fetus.

Labor and Delivery: Neither lidocaine nor tetracaine is contraindicated in labor and delivery. In humans, the use of lidocaine for labor conduction analgesia has not been associated with an increased incidence of adverse fetal effects either during delivery or during the neonatal period. Tetracaine has also been used as a conduction anesthetic for cesarean section without apparent adverse effects on offspring. Should PLIAGLIS™ be used concomitantly with other products containing lidocaine and/or tetracaine, total doses contributed by all formulations must be considered.

Nursing Mothers: Lidocaine is excreted into human milk and it is not known if tetracaine is excreted into human milk. Therefore, caution should be exercised when PLIAGLIS™ is administered to a nursing mother since the milk:plasma ratio of lidocaine is 0.4 and is not determined for tetracaine. In a prior report, when lidocaine was used as an epidural anesthetic for cesarean section in 27 women, a milk:plasma ratio of 1.07 ± 0.82 was found by using AUC values. Following single dose administration of 20 mg of lidocaine for a dental procedure, the point value milk:plasma ratio was similarly reported as 1.1 at five to six hours after injection. Thus, the estimated maximum total daily dose

of lidocaine delivered to the infant via breast milk would be approximately 36 mcg/kg. Based on these data and the low concentrations of lidocaine and tetracaine found in the plasma after topical administration of PLIAGLIS™ in recommended doses, the small amount of these primary compounds and their metabolites that would be ingested orally by a suckling infant is unlikely to cause adverse effects (see CLINICAL PHARMACOLOGY, Pharmacokinetics).

Pediatric Use: Safety and effectiveness of PLIAGLIS™ in pediatric patients have not been established.

Use in Geriatric Patients: Of the total number of subjects treated with PLIAGLIS™ in controlled clinical studies, 161 subjects were 65 years and older, while 50 subjects were over 75 years of age. No overall differences in safety and effectiveness were observed between these subjects and younger subjects. However, increased sensitivity in individual patients aged 65 years and older cannot be ruled out.

ADVERSE REACTIONS

PLIAGLIS™ has been evaluated for safety in 2159 persons undergoing a superficial dermal procedure. PLIAGLIS™ was studied in 11 placebo-controlled and 1 active-controlled trials, and in open-label safety trials. All 2159 persons were exposed to only a single application of PLIAGLIS™.

Adverse reactions were assessed by collecting spontaneously reported adverse events, and observations made on formal evaluation of the skin for specific reactions.

Because clinical trials are conducted under widely varying conditions, the frequencies of adverse reactions observed in the clinical trials of a drug may not reflect the frequencies observed in practice. However, the adverse reaction information from clinical trials does provide a basis for identifying the adverse events that appear to be related to drug use and for approximating their incidence in clinical practice.

Most common adverse events in clinical trials

Localized Reactions: During or immediately after treatment with PLIAGLIS™, the skin at the site of treatment may develop erythema, blanching or edema. In clinical studies, the most common local reactions were erythema (47%), skin discoloration (e.g., blanching, ecchymosis, and purpura) (16%), and edema (14%). These reactions were generally mild and transient, resolving spontaneously soon after treatment. There were no serious adverse events. However, one patient withdrew due to burning pain at the treatment site.

Other Localized Reactions: The following dermal adverse events occurred in 1% or less of PLIAGLIS™-treated patients: ecchymosis, petechial rash, vesiculobullous rash, perifollicular erythema, perifollicular edema, pruritus, rash, maculopapular rash, dry skin, contact dermatitis, and acne.

Systemic (Dose-Related) Reactions: Across all trials, 19 subjects experienced a systemic adverse event, 15 of who were treated with PLIAGLIS™ and 4 with placebo. The frequency of systemic adverse events was greater for the PLIAGLIS™ group (1%) than the placebo group (0.3%). The most common systemic adverse events were headache, vomiting, dizziness, and fever, all of which occurred with a frequency of <1%. Other systemic reactions were syncope, nausea, confusion, dehydration, hyperventilation, hypotension, nervousness, paresthesia, pharyngitis, stupor, pallor, and sweating.

Overall, systemic adverse reactions following appropriate use of PLIAGLIS™ are unlikely,

due to the small dose absorbed (see CLINICAL PHARMACOLOGY, Pharmacokinetics). Systemic adverse effects of lidocaine and tetracaine are similar in nature to those observed with other amide and ester local anesthetic agents, including CNS excitation and/or depression (light-headedness, nervousness, apprehension, euphoria, confusion, dizziness, drowsiness, tinnitus, blurred or double vision, vomiting, sensation of heat, cold or numbness, twitching, tremors, convulsions, unconsciousness, respiratory depression and arrest). Excitatory CNS reactions may be brief or not occur at all, in which case the first manifestation may be drowsiness merging into unconsciousness. Signs of CNS toxicity may start at plasma concentrations of lidocaine as low as 1000 ng/mL. The plasma concentrations at which tetracaine toxicity may occur are less well characterized; however, systemic toxicity with tetracaine is thought to occur with much lower plasma concentrations compared with lidocaine. The toxicity of co-administered local anesthetics is thought to be at least additive. Cardiovascular manifestations may include bradycardia, hypotension and cardiovascular collapse leading to arrest.

OVERDOSAGE

Application of 59 g of PLIAGLIS™ over 400 cm² for up to 120 minutes to adults produces peak plasma concentrations of lidocaine of 220 ng/mL. Toxic levels of lidocaine (>5000 ng/mL) cause CNS toxicity, including the risk of seizure. Signs of CNS toxicity may start at plasma concentrations of lidocaine as low as 1000 ng/mL, and the risk of seizures generally increases with increasing plasma levels. Very high levels of lidocaine can cause respiratory arrest, coma, decreases in cardiac output, total peripheral resistance and mean arterial pressure, ventricular arrhythmias and cardiac arrest. Tetracaine is associated with a profile of systemic CNS and cardiovascular adverse events similar to lidocaine, although toxicity associated with tetracaine is thought to occur at lower doses compared to lidocaine. The toxicity of co-administered local anesthetics is thought to be at least additive. In the absence of massive topical overdose or oral ingestion, other etiologies for the clinical effects or overdose from other sources of lidocaine, tetracaine or other local anesthetics should be considered. The management of overdose includes close monitoring, supportive care and symptomatic treatment. Dialysis is of negligible value in the treatment of acute overdose of lidocaine or tetracaine.

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