ANALJEZİKLER NE KADAR MASUM? NELERE DİKKAT ETMELİ?

Doç. Dr. Asım KALKAN

Okmeydanı EAH Acil Tıp Kliniği

PRIMUM NON NOCERE (ÖNCE ZARAR VERME)

PRIMUM NON NOCERE (ÖNCE ZARAR VERME)

- 2500 yıldır hekimlikte temel kılavuz ilkemiz
- Önce zarar verme
- Artan güvenlik önlemlerine rağmen advers etki veya potansiyel zararları nedeniyle iyatrojenik olayların temelinde ilaçlar bulunmaktadır.

- FDA raporlarına göre 1998-2005 yılları arasında rapor edilen ilaç yan etkisi sayısında 2,7 katlık bir artış mevcut.
- 1998 → 34.966
- 2005 → 89.842
- Ölüm olayı
- 1998 → 5519
- 2005 → 15107

Amerika'da meydana gelen ilaç yan etkisi nedeniyle başvuran hastaların her 1 milyonda 180 bini ölümle sonuçlanmaktadır

Lazarou J, Pomeranz BH, Corey PN: Incidence of adverse drug reactions in hospitalized patients: A meta-analysis of prospective studies, JAMA 1998;279(15):1200-5.

YAN ETKI NE DEMEK ?

- İlaçların proflaksi, tanı ve tedavi amacı ile kullandıkları dozlarda ortaya çıkan, hedeflenmemiş ve zararlı etkiler olarak tanımlanır.

Yan etki

ACIL SERVISE SIK BAŞVURU SEBEBI
HASTANEDE YATIŞ SURESINI ETKILEYEN BIR DURUM
HAYAT KALITESINI DÜŞÜRÜR
EKONOMIK BIR YÜK

Suh DC, Woodall BS, Shin SK, Hermes-De Santis ER (2000) Clinical and economic impact of adverse drug reactions in hospitalized patients. Ann Pharmacother 34(12):1373–1379
Del Pozzo-Magaña BR, Rieder MJ, Lazo-Langner A (2015) Quality of life in children with adverse drug reactions: a narrative and systematic review. Br J Clin Pharmacol 80(4):827–833

EN YENI META ANALIZ

European Journal of Clinical Pharmacology
https://doi.org/10.1007/s00228-018-2441-5

PHARMACOEPIDEMIOLOGY AND PRESCRIPTION

CrossMark

Mortality among patients due to adverse drug reactions that lead to hospitalization: a meta-analysis

Tejas K. Patel[1] · Parvati B. Patel[1]

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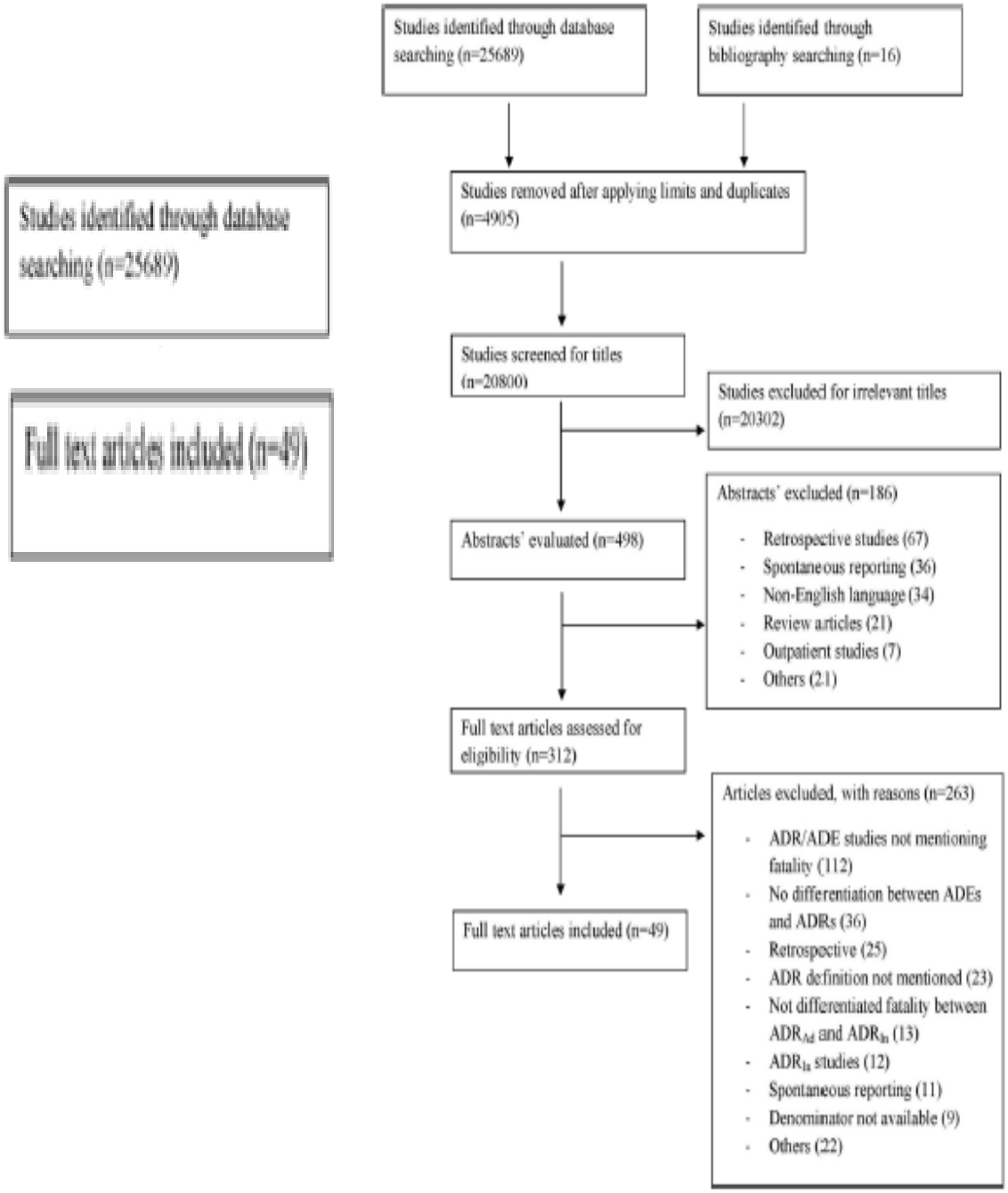

Studies identified through database searching (n=25689)

Full text articles included (n=49)

- Total 25689 adet çalışma
- Retrospektif
- Dil problemi
- Konu başlığının içeriğinin makaleyi yansıtmaması
- Tam metine ulaşamamaları nedeniyle

49 adet çalışma

NON STEROIDLERE BAĞLı YAN ETKI AZıMSANAMAYACAK KADAR FAZLA !

Adverse drug reactions (*n*)	Suspected drugs (*n*)
Nervous system disorders (91)	
Intracranial haemorrhage (86)	Vitamin K antagonists / Warfarin (79), Aspirin (5), Aspirin + Diclofenac/ Warfarin (2)
Neurological impairment (3)	NS (3)
Seizure (1), Embolic stroke (1)	Foscarnet + Ganciclovir + Haloperidol (1), NS (1)
Gastrointestinal disorders (27)	
Gastrointestinal bleeding (24)	Aspirin (11), Clopidogrel (1), Warfarin (1), Paroxetine (1), Aspirin + Diclofenac / Rofecoxib /Meloxicam / Fluoxetine/ Warfarin (5), Aspirin + Dipyridamole (2), Clopidogrel + Dalteparin (1), Diclofenac + Prednisolone (1), Ibuprofen + Dexamethasone (1)
Duodenal ulcer perforated (2)	Diclofenac (1), Aspirin + Diclofenac (1)
Retroperitoneal hematoma (1)	Warfarin (1)
Renal and urinary disorders (26)	
Acute renal failure/ renal failure (24)	RAS inhibitor (15), Bumetanide (2), Amiloride (1), Atenolol (1), RAS inhibitor + Diuretic (3), Diclofenac + Enalapril (1), Vancomycin + Colistin (1), Co-amilofruse + Calcium carbonate (1), Spironolactone + Furosemide + Captopril (1)

NON STEROIDLERE BAĞLı YAN ETKI AZıMSANAMAYACAK KADAR FAZLA !

Metabolism and nutrition disorders (15)	
Dehydration (8)	Diuretics (8)
Hyperkalemia (5)	Spironolactone + Amiloride (5)
Hypoglycemia (2)	Glipizide (1), Glibenclamide (1)
Vascular disorders (15)	
Shock (11)	NS (11)
Haemorrhage (4)	Heparin + Acenocoumarol + fluindione + Ticlopidine (4)
Hepatobiliary disorders (11)	
Hepatotoxicity / Liver failure (9)	Antitubercular drugs (9)
Hepatic hematoma (1)	Enoxaparin + Aspirin (1)
Hepatorenal syndrome (1)	Combined diuretic therapy (1)
Blood and lymphatic system disorders (6)	
Pancytopenia/Neutropenia (6)	Anticancer drugs (2), Thimazole (1), Interferon Alpha (1), Phenytoin (1), Cytarabine + Cyclophosphamide + Etoposide (1)
Cardiac disorders (5)	
Arrhythmia (4)	Digoxin + Furosemide / Venlafaxine (2), Chlorpromazine + Quetiapine (1), Digoxin + Furosemide + Losartan (1)
Cardiac failure (1)	Digoxin (1)
Respiratory, thoracic and mediastinal disorders (5)	
Respiratory failure (4)	NS (4)
Pulmonary embolism (1)	Tamoxifen (1)
Skin and subcutaneous tissue disorders (2)	
Stevens-Johnson syndrome (2)	Ampicillin + Co-trimoxazole + Sulfadoxine + Pyrimethamine + Ibuprofen (1), Ampicillin + Co-trimoxazole + Sulfadoxine/Pyrimethamine (1)
Injury, poisoning and procedural complications (2)	
Heat stroke (2)	NS (2)
Renal and urinary disorders, Metabolism and nutrition disorders (2)	

TÜRKIYE'DE YAPıLAN BIR ÇALıŞMA

TÜBİTAK

Turkish Journal of Medical Sciences

http://journals.tubitak.gov.tr/medical/

Research Article

Turk J Med Sci
(2016) 46: 945-952
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Emergency department visits caused by adverse drug reactions: results of a Turkish university hospital

Mehmet Can GİRGİN[1], Sedat YANTURALI[2], Mualla Aylin ARICI[3,*], Neşe ÇOLAK ORAY[2], Özgür DOYLAN[4], Yücel DEMİRAL[5], Yeşim TUNÇOK[3]

Table 2. ATC classification of the medications that caused ADRs.

ATC		n	%
J	Antiinfectives for systemic use	33	30.6
A	Alimentary tract and metabolism	14	12.9
B	Blood and blood-forming organs	14	12.9
M	Musculoskeletal system	12	11.1
N	Nervous system	12	11.1
C	Cardiovascular system	7	6.5
R	Respiratory system	5	4.7
V	Various	4	3.7
	Herbal products	3	2.8
H	Systemic hormonal preparations, excluding sex hormones and insulins	2	1.9
D	Dermatologicals	1	0.9
G	Genitourinary system and sex hormones	1	0.9
Total		108	100.0

Table 5. Medications that caused ADRs in cases with previous ADR history.

Medications that caused the previous ADRs	ADRs that caused the ED admission
Unknown drug	Ciprofloxacin
Unknown drug	Ciprofloxacin
Unknown drug	Paracetamol
Penicillin	Oxolamine citrate
Penicillin	Penicillin
Metoprolol	Metoprolol
Metoprolol	Etodolac
Clarithromycin	Clarithromycin
Insulin	Insulin
Fentanyl	Fentanyl
Unknown antibiotic	Gentamicin

ANALJEZIKLERE ÖZEL YAN ETKI YAYıNLARı

PubMed

Format: Summary Sort by: Link Per page: 20

Links from PubMed

Items: 1 to 20 of 195

1. Side effects of commonly prescribed analgesic medications.
Carter GT, Duong V, Ho S, Ngo KC, Greer CL, Weeks DL.
Phys Med Rehabil Clin N Am. 2014 May;25(2):457-70. doi: 10.1016/j.pmr.2014.01.007. Review.
PMID: 24787343

2. Adverse effects associated with non-opioid and opioid treatment in patients with chronic pain.
Labianca R, Sarzi-Puttini P, Zuccaro SM, Cherubino P, Vellucci R, Fornasari D.
Clin Drug Investig. 2012 Feb;32 Suppl 1:53-63. doi: 10.2165/11630080-000000000-00000. Review.
PMID: 23389876

3. Adverse effects associated with non-opioid and opioid treatment in patients with chronic pain.
Labianca R, Sarzi-Puttini P, Zuccaro SM, Cherubino P, Vellucci R, Fornasari D.
Clin Drug Investig. 2012 Feb 22;32 Suppl 1:53-63. doi: 10.2165/11630080-000000000-00000. Review.
PMID: 22356224

AĞRI

- Akut ağrı
- Kronik ağrı (3 aydan uzun suren ağrı)

KOMPLIKASYON OLUŞMASıNDA TEMEL ETKI

- ✓Uzun sureli medikasyon
- ✓Multipl ilaç kullanımı
- ✓Aynı içerik maddenin tekrar reçete edilmesi
- ✓Hasta uyumsuzluğu
- ✓İlaç isimlerinin birbirine benzemesi veya yanlış yazılması nedeniyle ortaya çıkar

ANALJEZIKLER

- **Narkotik Olmayan Analjezikler** → Prostaglandin Sentez İnhibisyonu (Ağrı reseptörlerinin sensitizasyonunu önlemek)
- **Lokal Anestezikler** → Ağrı reseptörlerinde sinyal oluşumunu önleyerek
- **Narkotik analjezikler** → Merkezi sinir sistemi üzerinden
- **Genel Anestezikler** → Merkezi sinir sistemi üzerinden
- **Psikoaktif İlaçlar** (Trankilizanlar, Nöroleptikler, Antidepresanlar) → Ağrı algılanmasını değiştirmek

GERÇEKTEN MASUM ILAÇLAR Mı ?

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PHARMACOEPIDEMIOLOGY AND PRESCRIPTION

Mortality among patients due to adverse drug reactions that lead to hospitalization: a meta-analysis

Tejas K. Patel[1] · Parvati B. Patel[1]

Clinical Therapeutics/Volume 29, Theme Issue, 2007

Adverse Drug Interactions Involving Common Prescription and Over-the-Counter Analgesic Agents

Elliot V. Hersh, DMD, MS, PhD[1]; Andres Pinto, DMD, MPH[2]; and Paul A. Moore, DMD, PhD, MPH[3]

[1]Department of Oral Surgery and Pharmacology, University of Pennsylvania School of Dental Medicine, Philadelphia, Pennsylvania; [2]Department of Oral Medicine, University of Pennsylvania School of Dental Medicine, Philadelphia, Pennsylvania; and [3]Department of Anesthesiology, University of Pittsburgh School of Dental Medicine, Pittsburgh, Pennsylvania

Drug Saf
https://doi.org/10.1007/s40264-018-0660-4

ORIGINAL RESEARCH ARTICLE

Comparative Rates of Mortality and Serious Adverse Effects Among Commonly Prescribed Opioid Analgesics

David L. Murphy[1,2] · Jacob A. Lebin[1,2] · Stevan G. Severtson[3] · Heather A. Olsen[3] · Nabarun Dasgupta[3] · Richard C. Dart[3,4]

Further, many other drugs like benzodiazepines or gabapentin complicate our understanding of prescription opioid abuse. Future direction for research could elucidate the roles of benzodiazepine co-ingestion, combination drug products, route of administration, and dose–response associated with important clinical outcomes.

In summary, potency of a prescription opioid analgesic demonstrates a significant, highly positive linear relationship with SAEs per 100 kg dispensed that are reported to PCs. Our work suggests that opioid potency should be carefully considered from both individual provider and public health perspectives and supports tighter regulation of more potent opioid drugs.

Side Effects of Commonly Prescribed Analgesic Medications

Gregory T. Carter, MD, MS[a,b,*], Vicky Duong, BS, PharmD(c)[c], Stanley Ho, BS, PharmD(c)[c], Kathryn C. Ngo, BS, PharmD(c)[c], Christopher L. Greer, BPharm[a,c], Douglas L. Weeks, PhD[a,c]

OPİOİDLER

Classification	Drugs	Adverse Effects and Relative Risks
Phenylpiperidines	Fentanyl	*Dermatologic:* Application-site reaction (adults, ≥1%; pediatrics, 3%–10%), diaphoresis (adults: transdermal ≥10%, sublingual ≥1%; pediatrics: transdermal ≥1%), pruritus (transdermal, 3%–10%; sublingual, ≥1%) *Gastrointestinal:* Abdominal pain (transdermal, 3%–10%; sublingual, ≥1%), constipation (adults, ≥10%; pediatrics, 3%–10%), diarrhea (adults: transdermal 3%–10%, sublingual ≥1%; pediatrics: transdermal ≥1%), indigestion (transdermal, 3%–10%; sublingual, ≥1%), loss of appetite (transdermal, 3%–10%; sublingual, ≥1%), nausea (≥10%), vomiting (≥10%), xerostomia (adults: transdermal ≥10%, sublingual ≥1%; pediatrics: transdermal ≥1%) *Neurologic:* Asthenia (adults, ≥9.7%; pediatrics, 3%–10%), confusion (adults: transdermal ≥10%, sublingual ≥1%; pediatrics: transdermal ≥1%), dizziness (adults, 3%–10%; pediatrics, ≥1%), feeling nervous (3%–10%), headache (transdermal, 3%–10%; sublingual, ≥1%), insomnia (adults, ≥1%; pediatrics, 3%–10%), somnolence (adults, ≥9.5%; pediatrics, 3%–10%) *Psychiatric:* Anxiety (adults, 3%–10%; pediatrics, ≥1%), depression (adults: transdermal 3%–10%, sublingual ≥1%; pediatrics: transdermal ≥1%), euphoria (3%–10%), hallucinations (adults: transdermal 3%–10%, sublingual ≥1%; pediatrics: transdermal ≥1%) *Renal:* Urinary retention (adults: transdermal 3%–10%, sublingual <1%; pediatrics: transdermal ≥1%) *Respiratory:* Dyspnea (adults: transdermal 3%–10%, sublingual 10.4%; pediatrics: transdermal ≥1%), upper respiratory infection (3%–10%) *Other:* Fatigue (transdermal, 3%–10%; sublingual, ≥1%), influenza-like symptoms (3%–10%)

OPİOİDLER

Alfentanil	*Cardiovascular:* Bradyarrhythmia (14%), hypertension (18%), hypotension (10%), tachycardia (12%) *Gastrointestinal:* Nausea (28%), vomiting (18%)
Sufentanil	*Cardiovascular:* Bradyarrhythmia (3%–9%), Hypotension (3%–9%) *Dermatologic:* Pruritus (25%) *Gastrointestinal:* Nausea (3%–9%), vomiting (3%–9%) *Musculoskeletal:* Muscle rigidity, chest wall (3%–9%) *Neurologic:* Somnolence (3%–9%)
Meperidine[a]	*Dermatologic:* Sweating, pruritus, rash, urticaria *Gastrointestinal:* Abdominal cramps, anorexia, biliary spasm, constipation, nausea, paralytic ileus, sphincter of Oddi spasm, vomiting, xerostomia *Neurologic:* Agitation, confusion, delirium, disorientation, dizziness, lightheadedness, sedation *Neuromuscular and skeletal:* Muscle twitching, myoclonus, tremor, weakness *Ocular:* Visual disturbances

OPİOİDLER

Methadone[a]	*Cardiovascular:* Cardiac dysrhythmia, hypotension *Endocrine metabolic:* Diaphoresis *Gastrointestinal:* Constipation, nausea, vomiting *Neurologic:* Asthenia, dizziness, lightheadedness, sedated
Tapentadol	*Gastrointestinal:* Constipation (8%–17%), nausea (21%–30%), vomiting (8%–18%) *Neurologic:* Dizziness (17%–24%), headache (extended-release tablets, 10%–15%), somnolence (12%–15%); avoid combining with SNRI or SSRI
Tramadol	*Dermatologic:* Flushing (8%–16%), pruritus (3%–11.9%) *Gastrointestinal:* Constipation (9%–46%), nausea (15%–40%), vomiting (5%–17%), dyspepsia (1%–13) *Neurologic:* Dizziness (7%–28.2%), headache (3%–15.8%), insomnia (1%–10.9%), somnolence (4%–20.3%) *Neuromuscular and skeletal:* Weakness (4%–12%); avoid combining with SNRI or SSRI

Oral NSAIDs	
Cardiovascular	Edema (<9%), palpitation, hypertension. A recent meta-analysis looking at the cardiovascular effects of NSAIDs (including selective COX-2 inhibitors) shows that the risks are similar. Naproxen is associated with less cardiovascular risk than other NSAIDs[a]
Dermatologic	Rash (3%–9%), itching (<9%)
Central nervous system	Dizziness (3%–9%), headache (1%–3%), nervousness (1%–3%) Indomethacin: Headache (12%) Ketorolac: Headache (17%)
Endocrine and metabolic	Fluid retention (≤9%)
Gastrointestinal	Epigastric pain (3%–9%), heartburn (3%–9%), nausea (3%–9%), abdominal pain/cramps/distress (1%–3%), appetite decreased (1%–3%), constipation (1%–3%), diarrhea (1%–3%), dyspepsia (1%–3%), flatulence (1%–3%), vomiting (1%–3%), stomatitis

General	Dyspnea (3%–9%), thirst
Hepatic	Ketoprofen: Liver function test abnormality (<15%)
Otic	Tinnitus (3%–9%)
Renal	Ketorolac: Renal function abnormal

Topical NSAIDs	
Dermatologic	Dermatitis (11%), pruritus (4%), erythema (<1%), paresthesia (<1%), dryness (<1%), vesicles (<1%), irritation (<1%), papules (<1%), itching
COX-2 Selective Inhibitor	
Gastrointestinal	Abdominal pain (4%), diarrhea (5%), dyspepsia (8%), flatulence (2%), nausea (3%)
Cardiovascular	The selective action on COX-2 does reduce gastrointestinal side effects but dos not eliminate cardiovascular complications (see above for NSAIDs)[a]
Central, peripheral nervous system	Dizziness (2%), headache (15%); in higher doses may produce disorientation, particularly in elderly
Psychiatric	Insomnia (2%)
Respiratory	Pharyngitis (2%), rhinitis (2%), sinusitis (5%), upper respiratory infection (8%)
Dermatologic	Rash (2%)

ACETAMINOPHEN

	Oral
Dermatologic	Rash Rare, serious: Stevens-Johnson syndrome, toxic epidermal necrolysis (TEN), acute generalized exanthematous pustulosis (AGEP)
Central nervous system	Dizziness, insomnia (1%–7%), headache (1%–10%)
Endocrine, metabolic	May increase chloride, uric acid, glucose May decrease sodium, bicarbonate, calcium
Hematologic	Anemia, blood dyscrasias (neutropenia, pancytopenia, leukopenia)
Hepatic	Bilirubin increased, alkaline phosphatase increased. For adults and children 12 y and older, the recommended maximum daily dose of acetaminophen 3000 mg in 24 h
Psychiatric	Agitation (>5%)
Renal	Ammonia increased, nephrotoxicity with chronic overdose, analgesic nephropathy
Gastrointestinal	Nausea (adults 34%, children >5%), vomiting (adults 15%, children >5%), constipation (>5%)

ACETAMINOPHEN

	Intravenous
Cardiovascular	Edema (peripheral), hypervolemia, hypo-/hypertension, tachycardia
Central nervous system	Headache (adults 10%, children >1%), insomnia (adults 7%, children >1%), anxiety, fatigue
Dermatologic	Pruritus (children >5%), rash
Endocrine, metabolic	Hypoalbuminemia, hypokalemia, hypomagnesemia, hypophosphatemia
Gastrointestinal	Constipation (children >5%), abdominal pain, diarrhea
Hematologic	Anemia
Hepatic	Transaminase increased
Local	Infusion-site pain
Neuromuscular, skeletal	Muscle spasms, pain in extremity, trismus
Ocular	Periorbital edema
Renal	Oliguria (children >1%)
Respiratory	Atelectasis (>5%), abnormal breath sounds, dyspnea, hypoxia, pleural effusion, pulmonary edema, stridor, wheezing

TOPICAL ANALJEZIKLER

Capsaicin	Local: Redness (63%), burning sensation, pain (42%) Pruritus (2%–6%), papules (6%), edema (4%), dryness (2%), swelling (2%) Systemic: Hypertension (2%, transient) Nausea (5%), vomiting (3%) Nasopharyngitis (4%), sinusitis (3%), bronchitis (2%)
Lidocaine (cream, patch)	Localized: Redness, edema, itching, rash, paleness *Patch:* petechia, bruising, irritation, pain exacerbation Systemic: (if dose is large enough) Hypotension (3%), nausea (<1%) Bradycardia, methemoglobinemia Lightheadedness, nervousness, euphoria, confusion, dizziness, sensations of heat, cold or numbness, tremors, drowsiness Serious, but rare: cardiac arrest, cardiac dysrhythmia, respiratory depression
Lidocaine/ prilocaine (cream)	Localized: Paleness (37%), redness (30%), alterations in temperature sensations (7%), edema (6%), itching (2%), rash (<1%) Systemic: Unlikely to occur, owing to small doses Same as systemic adverse drug reactions listed above under lidocaine
Methyl salicylate, menthol, camphor	Localized: Irritation, burns, redness Systemic (in larger doses, frequent application): Salicylate toxicity (nausea, vomiting, respiratory distress, apnea, confusion, seizures, coma, pulmonary edema, hyperthermia, cardiovascular collapse, death)

ADJUVAN OLARAK KULLANILAN SNRI'LAR

	Cymbalta
Cardiovascular	Palpitation (1%–2%)
Central nervous system	Headache (14%), somnolence (12%), fatigue (11%), dizziness (10%), insomnia (10%), agitation (5%), anxiety (3%), dream abnormal (2%)
Dermatologic	Hyperhidrosis (7%)
Endocrine and metabolic	Decreased libido (4%), hot flushes (3%), orgasm abnormality (3%)
Gastrointestinal	Nausea (25%), xerostomia (15%), constipation (10%), diarrhea (10%), decreased appetite (9%), abdominal pain (6%), vomiting (5%), dyspepsia (2%), weight loss (2%)
Genitourinary	Erectile dysfunction (5%), ejaculation delayed (3%), ejaculatory dysfunction (2%)
Hepatic	Alanine aminotransferase > 3× upper limit of normal
Miscellaneous	Influenza (3%)
Neuromuscular and skeletal	Muscle spasms (3%), tremor (3%), musculoskeletal pain (1%), paresthesia (1%), rigors (1%)
Ocular	Blurred vision (3%)
Respiratory	Nasopharyngitis (5%), cough (3%)

ADJUVAN OLARAK KULLANILAN SNRI'LAR

	Effexor
Cardiovascular	Vasodilation (2%–6%), hypertension (3% in patients receiving <100 mg/d, ≤13% in patients receiving >300 mg/d), palpitation (3%), tachycardia (2%), chest pain (2%), orthostatic hypotension (1%), edema
Central nervous system	Headache (25%–38%), somnolence (12%–26%), dizziness (11%–24%), insomnia (15%–24%), nervousness (6%–21%), anxiety (2%–11%), yawning (3%–8%), abnormal dreams (3%–7%), chills (2%–7%), agitation (2%–5%), confusion (2%), abnormal thinking (2%), depersonalization (1%), depression (1%–3%), fever, migraine, amnesia, hypoesthesia, vertigo
Dermatologic	Rash (3%), pruritus (1%), bruising
Endocrine and metabolic	Decreased libido (2%–8%), hypercholesterolemia (5%), increased triglycerides
Gastrointestinal	Nausea (21%–58%), xerostomia (12%–22%), anorexia (8%–17%), constipation (8%–15%), abdominal pain (8%), diarrhea (8%), vomiting (3%–8%), dyspepsia (5%–7%), weight loss (1%–6%), flatulence (3%–4%), taste perversion (2%), appetite increased, belching, weight gain

STEROIDLER

Prednisone, Prednisolone

Cardiovascular	Hypertension, congestive heart failure in susceptible patients Body fluid retention—prednisolone
Central nervous system	Headache
Dermatologic	Impaired wound healing, bruising, thin fragile skin Acne, ecchymosis, superinfection—prednisolone
Endocrine, metabolic	Body fluid retention, impaired glucose tolerance, increased appetite, weight gain, Cushing syndrome, adrenal suppression Children: growth suppression Lipid abnormalities—prednisolone
Gastrointestinal	Abdominal distention, pancreatitis
Immunologic	Immune suppression (prolonged use)
Musculoskeletal	Osteoporosis, tendon rupture, steroid myopathy
Ocular	Intraocular pressure increased, glaucoma
Psychiatric	Disturbance in mood, irritability, euphoria, other psychiatric reactions (frequency estimated to be 5%–6% in adults)

STEROIDLER

Dexamethasone, Hydrocortisone	
Cardiovascular	Hypertension
Dermatologic	Atrophic condition of skin, impaired wound healing
Endocrine, metabolic	Cushing syndrome Children: growth suppression
Immunologic	Immune suppression
Musculoskeletal	Osteoporosis
Ocular	Cataract (5%), raised intraocular pressure (25%)
Psychiatric	Depression, euphoria
Respiratory	Pulmonary tuberculosis

STEROIDLER

Fludrocortisone, Methylprednisolone – Common	
Cardiovascular	Edema
Dermatologic	Bruising, impaired wound healing, petechiae, rash, urticaria
Endocrine, metabolic	Abnormal electrolytes, hypokalemia, hyperglycemia, weight gain due to sodium and water retention Children: decreased body growth
Gastrointestinal	Abdominal distention, peptic ulcer disease
Musculoskeletal	Drug-induced myopathy, muscle weakness
Neurologic	Headache, vertigo
Renal	Glycosuria
Reproductive	Irregular periods

STEROIDLER

Budesonide—Oral	
Cardiovascular	Edema (<7%) Chest pain, facial edema, tachycardia (<5%)
Central nervous system	Headache (21%), dizziness (<7%), mood swings (7%)
Dermatologic	Bruising (5%–15%), acne (<15%), hirsutism (5%), alopecia (<5%)
Gastrointestinal	Nausea (11%), diarrhea (10%)
Respiratory	Infection (11%), sinusitis (8%)
Miscellaneous	Fat redistribution (moon face, buffalo hump) (3%–11%)

PEKI NE YAPALıM ?

- %100 güvenli ilaç yoktur
- Anamnez !!! önceki yan etki olaylarını sorgulayın
- Yas ve cinsiyeti dikkate alın
- Bilinen hastalıklarını iyi sorgulayın
- Kişiye özel ilaç dozunu iyi ayarlayın
- Kişinin sosyal ve psikolojik düzeyini iyi değerlendirin

PEKI NE YAPALıM ?

- Hastanın mevcut kullandığı ilaçlarını sorgulayın
- İlaç etkileşimleri olabileceğini göz ardı etmeyin
- Özellikle maligniteli hastalarda kar zarar oranını göz önünde bulundurun
- Malignitesi olmayan hastalarda opiodlerin bağımlılık potansiyelinin yüksek olduğunu unutmayın
- Hekimlik deneyimlerinizi bilimsel kanıtlarla ilerletmeye devam edin

- Teşekkürler