UYGUN OLMAYAN ANTİBİYOTİK KULLANIMI VE BEKLENMEYEN SONUÇLARI

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94 yaş
Erkek
Pnömoni

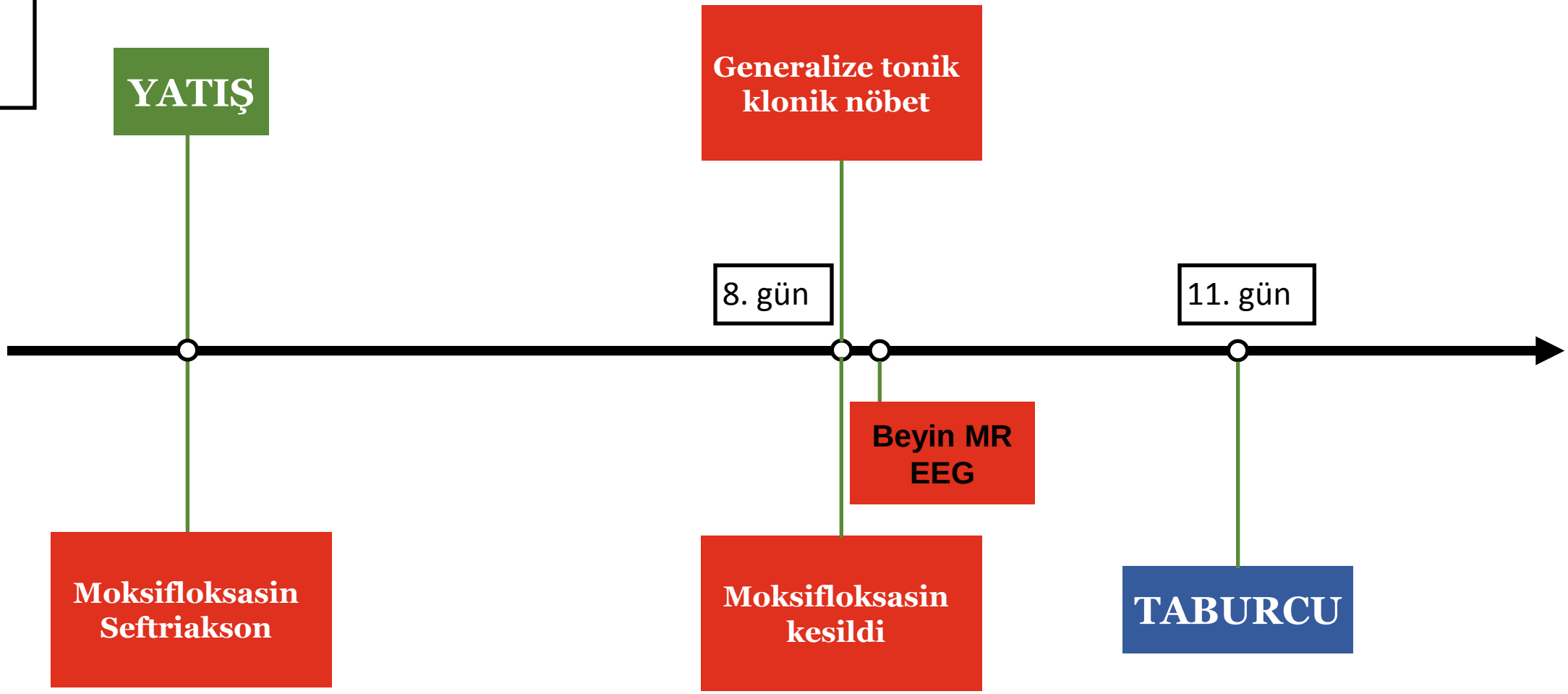


Table 2

Epileptic Potential of Antibiotic Agents[4,5,11,12,14,16]

Antibiotic Class	Approximate Incidence of Seizures, %
Penicillins	2-20
Cephalosporins	3-17
Carbapenems	3-20
Higher risk with imipenem/cilastatin	
Fluoroquinolones	<1
Higher risk with ciprofloxacin	
Metronidazole	1-8
Isoniazid	0.2-1

Antibiotic class	Number of publications	Neurotoxic effects	Mechanism of neurotoxicity	Risk factors
Tetracyclines	1: Review article	Cranial nerve toxicity; Neuromuscular blockade; Intracranial hypotension		
Trimethoprim-Sulfamethoxazole	8: case reports	Transient psychosis; encephalopathy; aseptic meningitis	CNS penetration	Advancing age; Immunocompromised
Macrolides.azalides: **1. Erythromycin** **2. Clarithromycin** **3. Azithromycin,** **4. Dirithromycin**	6: Case reports; Review articles	Ototoxicity	Damage to Cochlea	
Quinolones: **1. Ciprofloxacin** **2. Norfloxacin** **3. Ofloxacin** **4. Gemifloxacin** **5. Levofloxacin** **6. Gatifloxacin**	5: Case reports; case series	Psychosis Encephalopathy Seizures NCSE Orofacial dyskinesias Action myoclonus Ataxia Dysarthria Chorea	Inhibition of GABA-A receptors; Activation of NMDA receptors	Advancing age; Impaired renal function; Increased permeability of blood-brain barrier

Marie F Grill, Rama K Maganti. Br J Clin Pharmacol. 2011;72(3):381–393.

FDA Drug Safety Communication: FDA updates warnings for oral and injectable fluoroquinolone antibiotics due to disabling side effects

This information is an update to the FDA Drug Safety Communication: FDA advises restricting fluoroquinolone antibiotic use for certain uncomplicated infections; warns about disabling side effects that can occur together issued on **May 12, 2016**

We have determined that fluoroquinolones should be reserved for use in patients who have no other treatment options for acute bacterial sinusitis, (ABS), acute bacterial exacerbation of chronic bronchitis (ABECB), and uncomplicated urinary tract infections (UTI) because the risk of these serious side effects generally outweighs the benefits in these patients. For some serious bacterial infections the benefits of

KİNOLON GRUBU ANTİBİYOTİKLER, ALTERNATİF ANTİBİYOTİK SEÇENEKLERİNİN OLDUĞU DURUMLARDA KULLANILMAMALIDIR

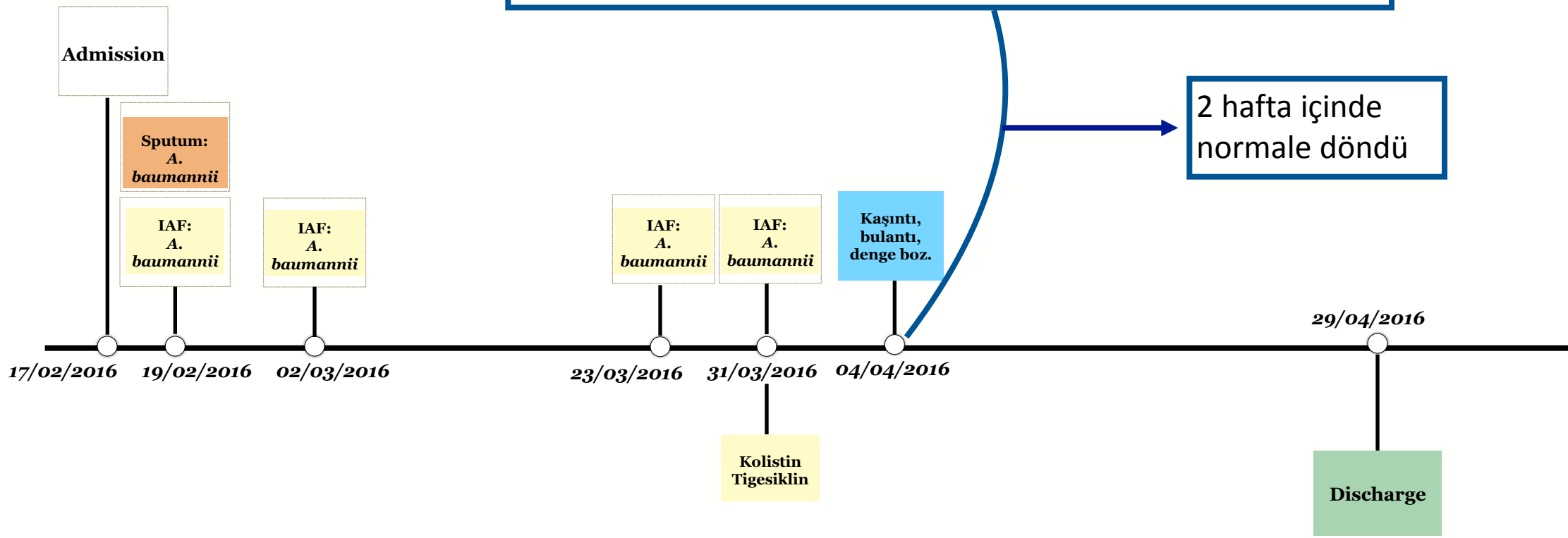
Health care professionals should not prescribe systemic fluoroquinolones to patients who have other treatment options for acute bacterial sinusitis (ABS), acute bacterial exacerbation of chronic bronchitis (ABECB), and uncomplicated urinary tract infections (UTI) because the risks outweigh the benefits in these patients. Stop fluoroquinolone treatment immediately if a patient reports serious side effects, and switch to a non-fluoroquinolone antibacterial drug to complete the patient's treatment course (see **List of Currently Available FDA-approved Fluoroquinolones for Systemic Use**).

45 yaş, kadın

Kesici delici alet yaralanması

Beyin MR: Her iki serebellar hemisfer posteriorunda, her iki oksipital lobda ve sağda lentiform nükleus ile kaudat nükleusta patolojik T2 sinyal artış alanları ve sağda derin gri cevherde hafif diffüzyon kısıtlaması

2 hafta içinde normale döndü



IAF: Intra-abdomina fluid

ColR: Colistin resistant

CarR: Carbapenem resistant

MRSA: Meticilline resistant *Staphylococcus aureus*

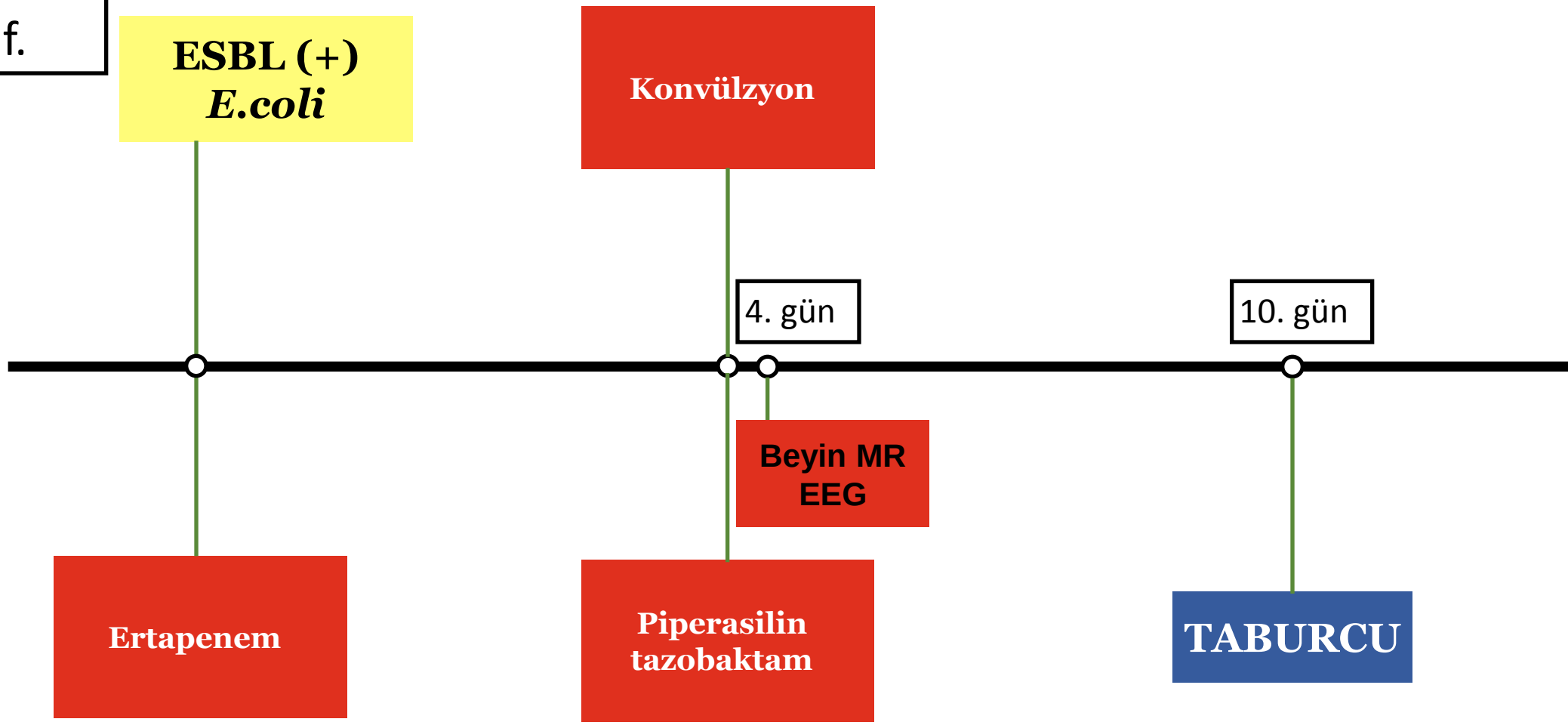
ESBL: Extended Spectrum Beta Lactamase

TABLE 1. Mechanisms, Incidence, and Effects of Neurotoxicity Associated With Common Antimicrobial Classes[1,15–28]

Antibiotic class	Neurotoxic effects				Incidence rate	Possible mechanisms
	CNS	Cranial nerve	Peripheral nerve	Neuromuscular blockade		
β-Lactams Carbapenems	+++	–	–	–	Imipenem, 0.5%–3%; ertapenem, 0.18–0.5% (AMS, 3.3%–5.1%); meropenem, 0.7%; and doripenem, 0.7%	$GABA_A$ antagonism/inhibition; glutaminergic excitation
β-Lactams Cephalosporins	+++	–	–	–	Cefepime: 4.1% in patients treated with hematological malignancies	$GABA_A$ antagonism/inhibition; glutaminergic excitation
β-Lactams Penicillins	+++	–	+	–	Not well defined	$GABA_A$ antagonism/inhibition
Aminoglycosides	++	+++	+	++	Ototoxicity: 10–22%	Inner ear sensory hair destruction, NMDA agonism, lysosomal abnormality, inflammation, inhibition of presynaptic acetylcholine release, and binding of acetylcholine receptor complex
Macrolides	–	+++	–	–	Sensorial hearing loss, 25% of patients receiving 4 g of erythromycin/day	Cochlear damage
Oxazolidinones (linezolid)	+	+	+	–	Not well defined	Not well defined
Polymyxins	+++	++	+++	+++	7–27%	Acetylcholine blockade; calcium depletion resulting in prolonged depolarization
Quinolones	+++	+	–	–	0.89–2.8%	$GABA_A$ antagonism/inhibition; NMDA agonism

Apodaca K, et al. Psychosomatics. 2015; 56(5): 561-6

65 yaş
Kadın
Üriner Sistem Enf.



Antibiyotik ilişkili nörotoksisite

Antibiotic class	Number of publications	Neurotoxic effects	Mechanism of neurotoxicity	Risk factors
Beta-lactams	4. Case reports	Encephalopathy	Inhibition of GABA-A receptors;	Renal failure
Carbapenems		Seizures	Possibly binding of glutamate	
1. Imipenem		Myoclonus		
2. Meropenem		Headache		
3. Panipenem				
4. Ertapenem				
5. Doripenem				
6. Ceftaroline				

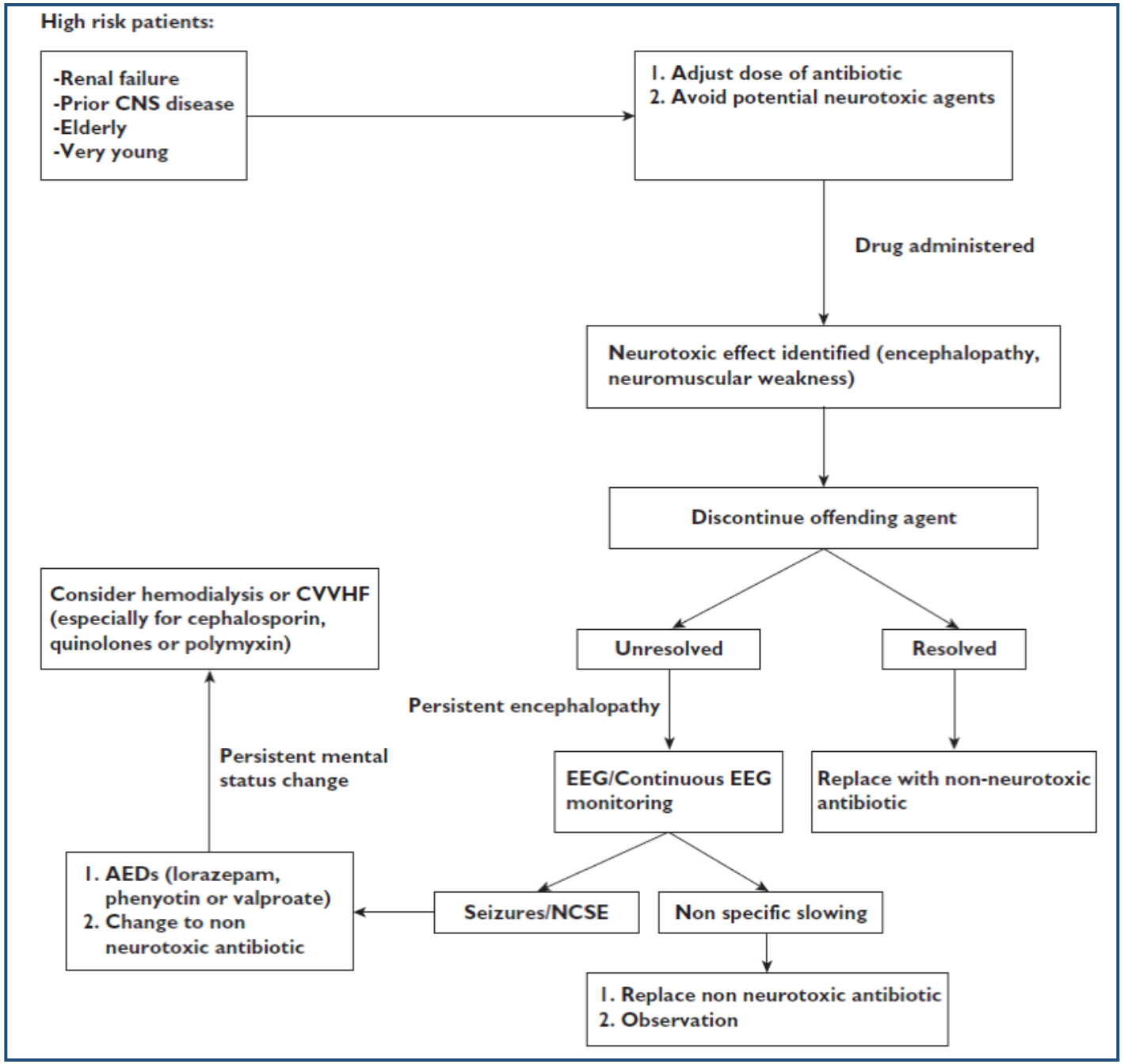
Konvülzyon; karbapenem ile GABA arasındaki yapısal benzerlik nedeniyle ortaya çıkar.

Imipenem (%1-2) > ertapenem > meropenem > doripenem (%0.1-0.3)

Valproik asit ile etkileşim (serum düzeyini düşürür)

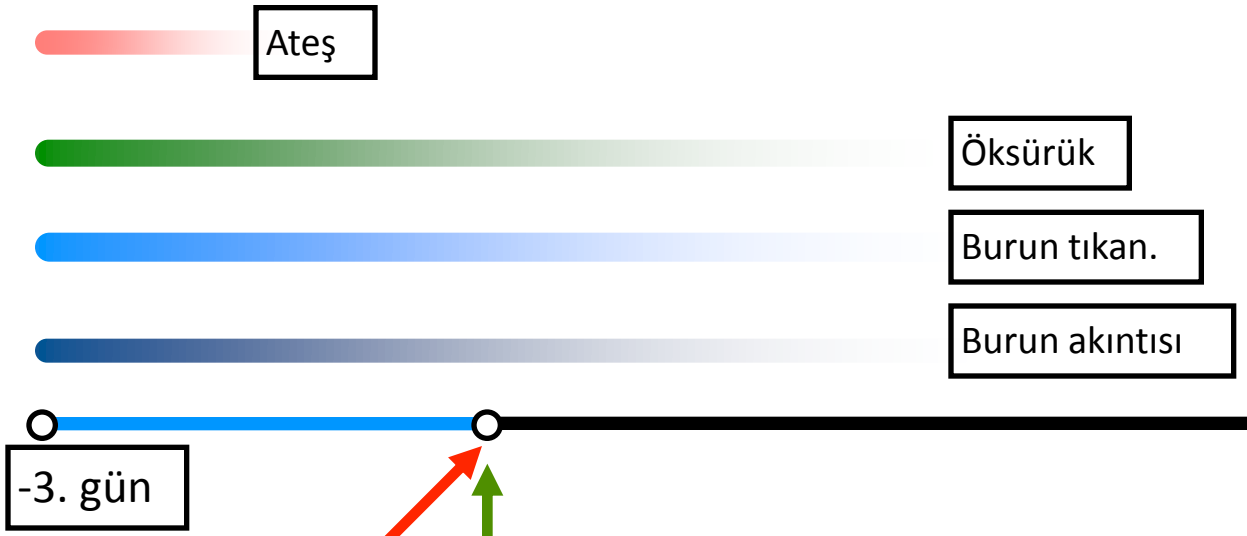
Marie F Grill, Rama K Maganti. Br J Clin Pharmacol. 2011;72(3):381–393.

Antibiyotik ilişkili nörotoksisitenin yönetimi



Marie F Grill, Rama K Maganti. Br J Clin Pharmacol. 2011;72(3):381–393.

34 yaş kadın

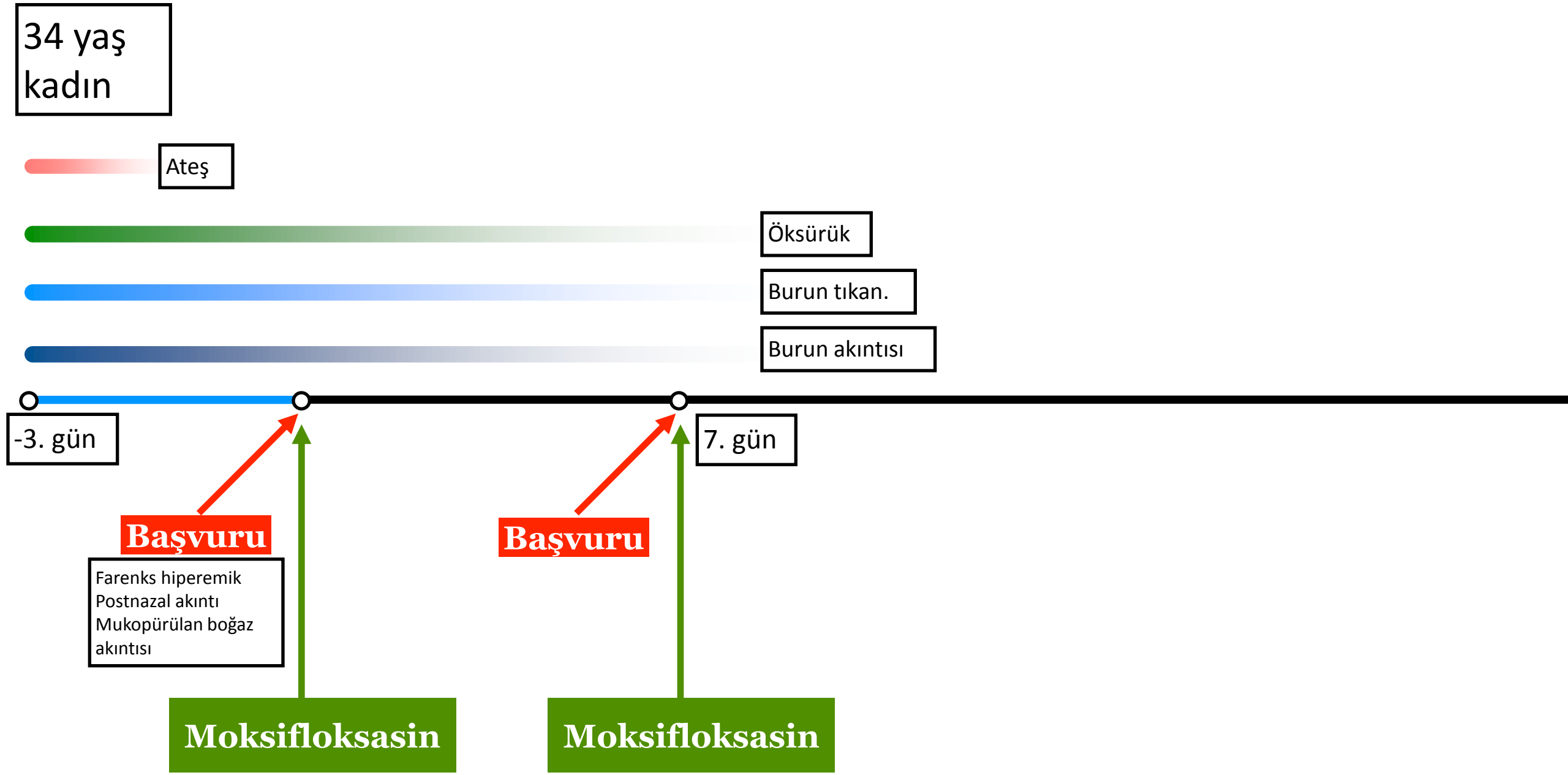


-3. gün

Başvuru

Farenks hiperemik
Postnazal akıntı
Mukopürülan boğaz akıntısı

Moksifloksasin


34 yaş kadın
Ateş
Öksürük
Burun tıkan.
Burun akıntısı
-3. gün
7. gün
Başvuru
Farenks hiperemik
Postnazal akıntı
Mukopürülan boğaz akıntısı
Moksifloksasin
Başvuru
Moksifloksasin

TANINIZ NEDİR?

1. Akut Bakteriyel Sinüzit

2. Viral Sinüzit

- Akut rinosinüzitte en sık etkenler viruslardır
- Komplike olmayan viral rinosinüzit tedavisiz 7-10 günde kaybolur
- Viral rinosinüziti akut bakteriyel sinüzitten (ABS) ayırmak önemli

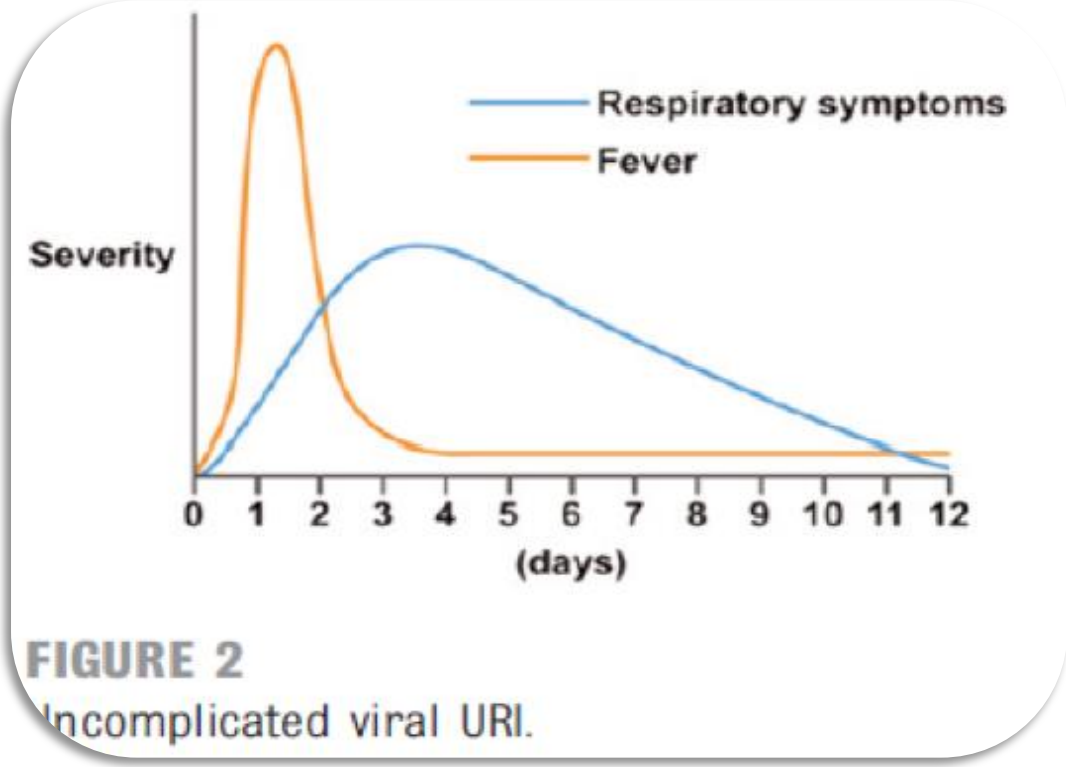
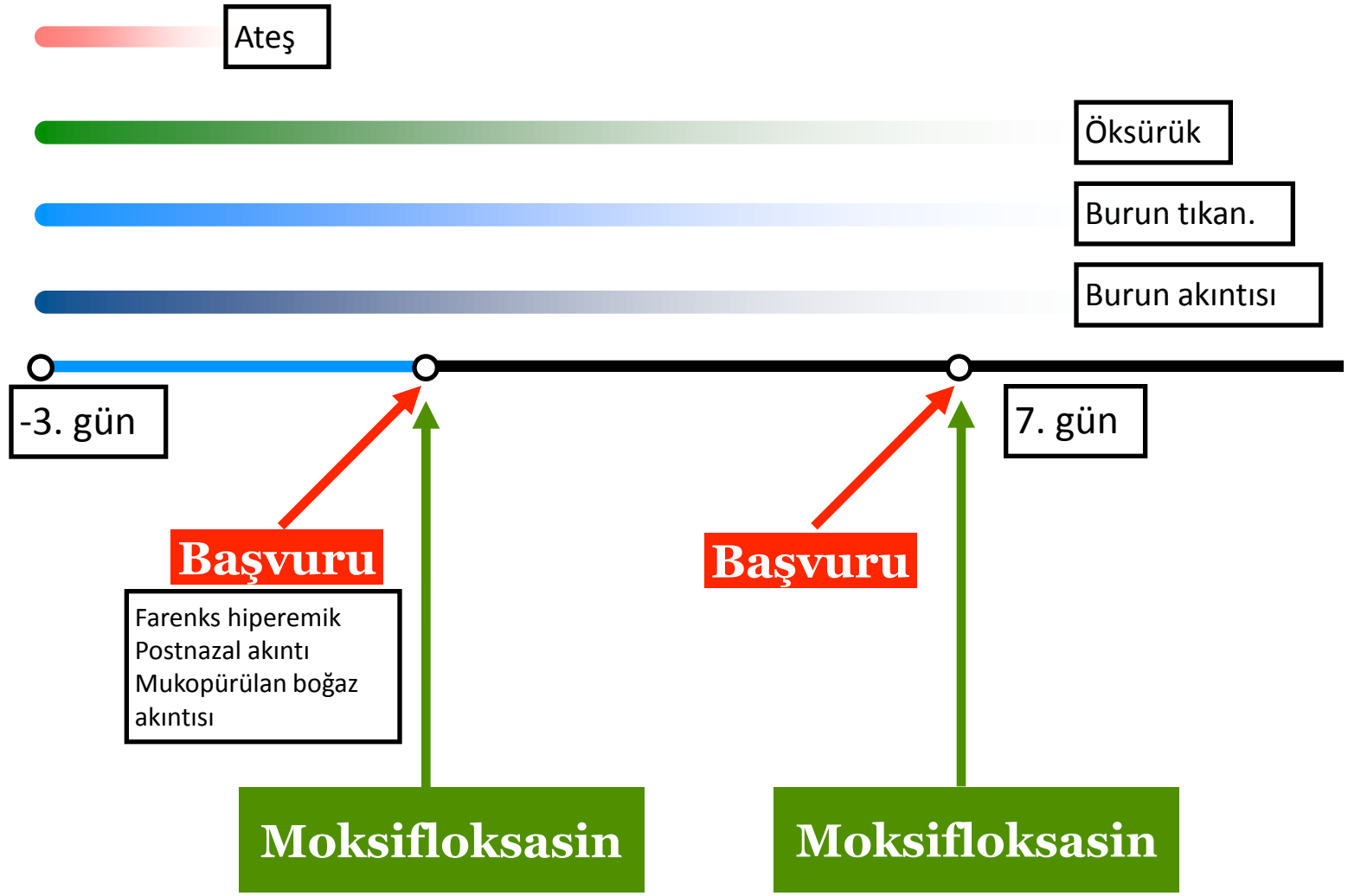


FIGURE 2
Incomplicated viral URI.

Komplike olmayan viral ÜSYE ile akut bakteriyel sinuziti ayırmak önemli !!!

ABS'yi diğer respiratuar enfeksiyonlardan ayırmak için komplike olmayan viral ÜSYE'yi tanımlamak gereklidir.

34 yaş


Ateş
Öksürük
Burun tıkan.
Burun akıntısı
-3. gün
7. gün
Başvuru
Farenks hiperemik
Postnazal akıntı
Mukopürülan boğaz akıntısı
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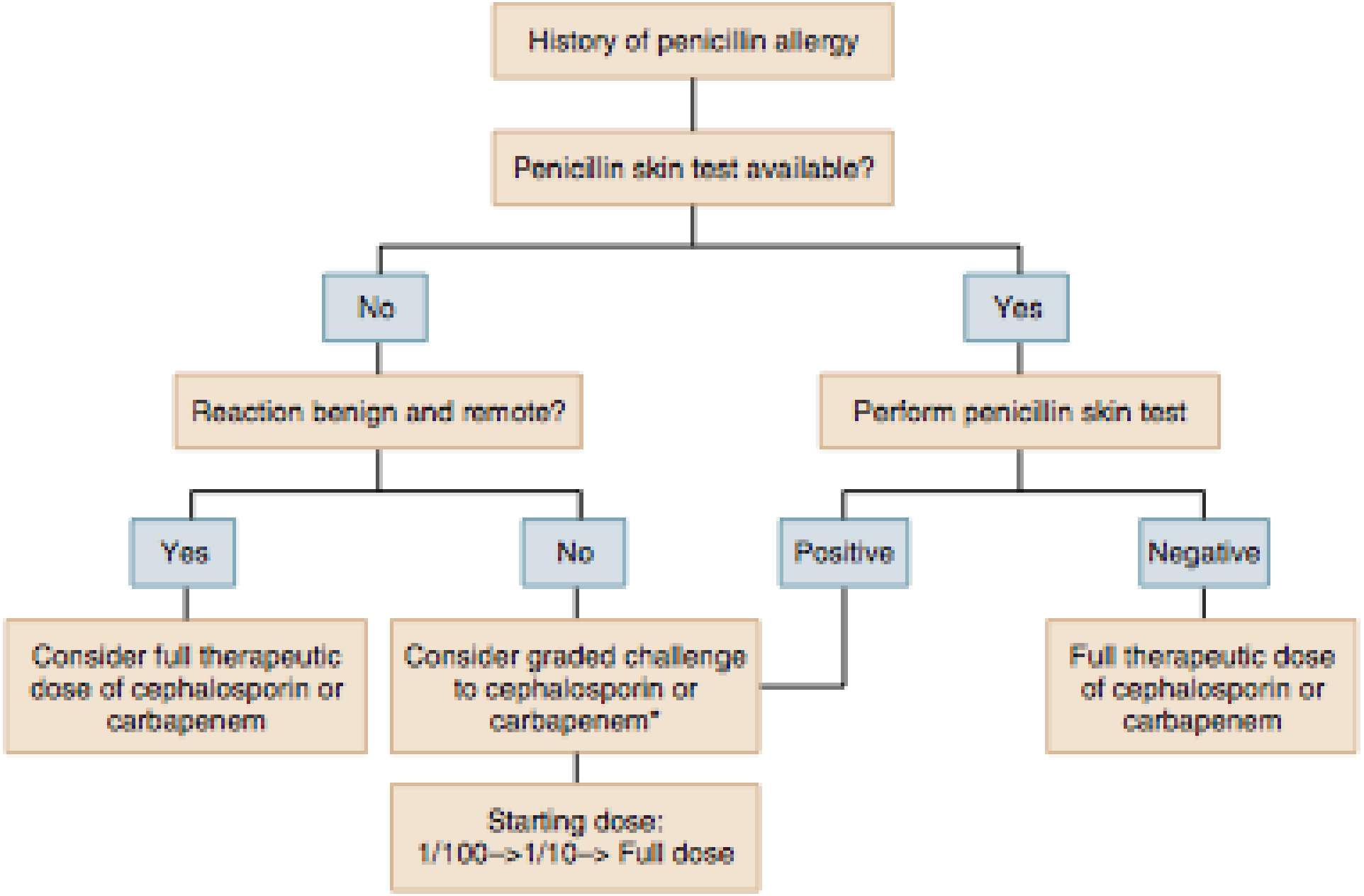
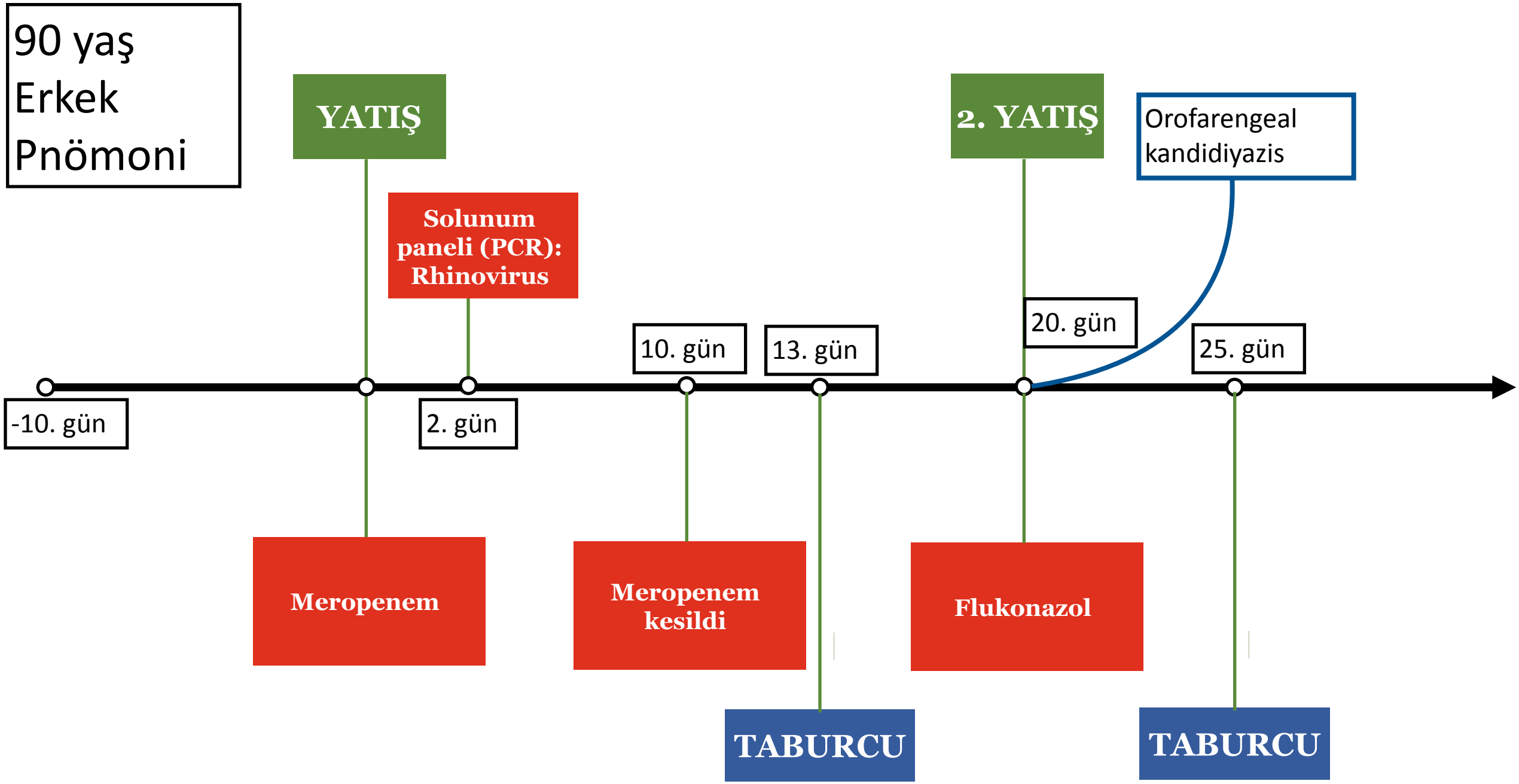
Başvuru
Moksifloksasin

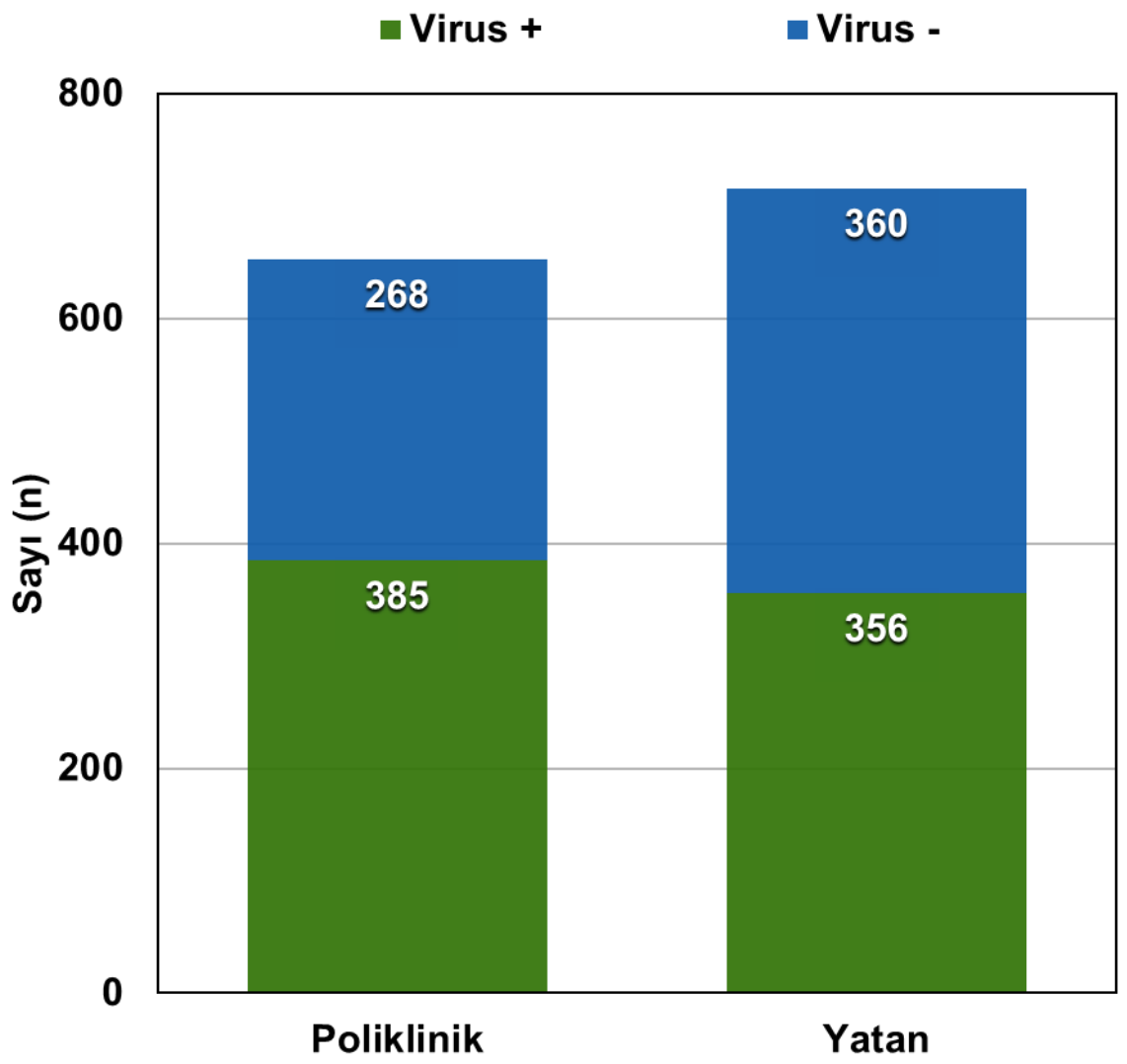


Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases, 2015

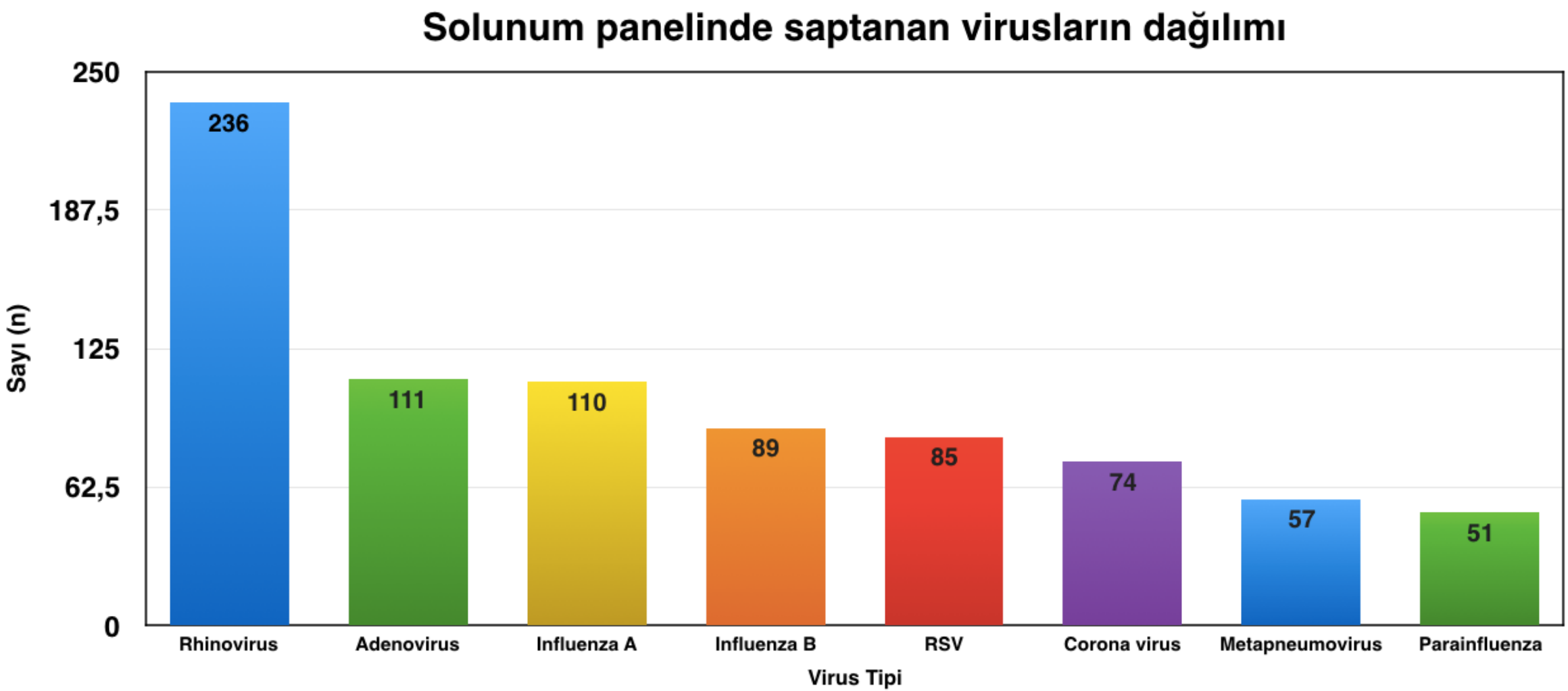

90 yaş
Erkek
Pnömoni
YATIŞ
Solunum paneli (PCR): Rhinovirus
10. gün
13. gün
2. YATIŞ
Orofarengeal kandidiyazis
20. gün
25. gün
-10. gün
2. gün
Meropenem
Meropenem kesildi
Flukonazol
TABURCU
TABURCU

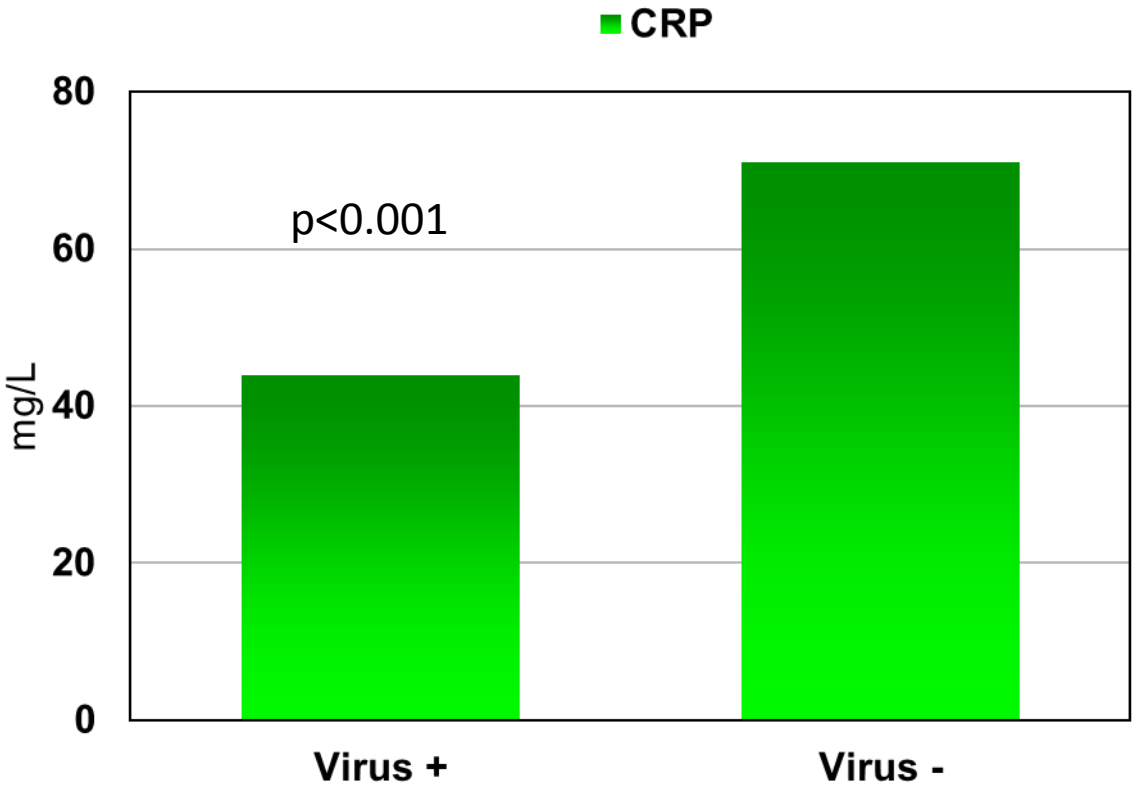
Solunum yolları panel testi (PCR)

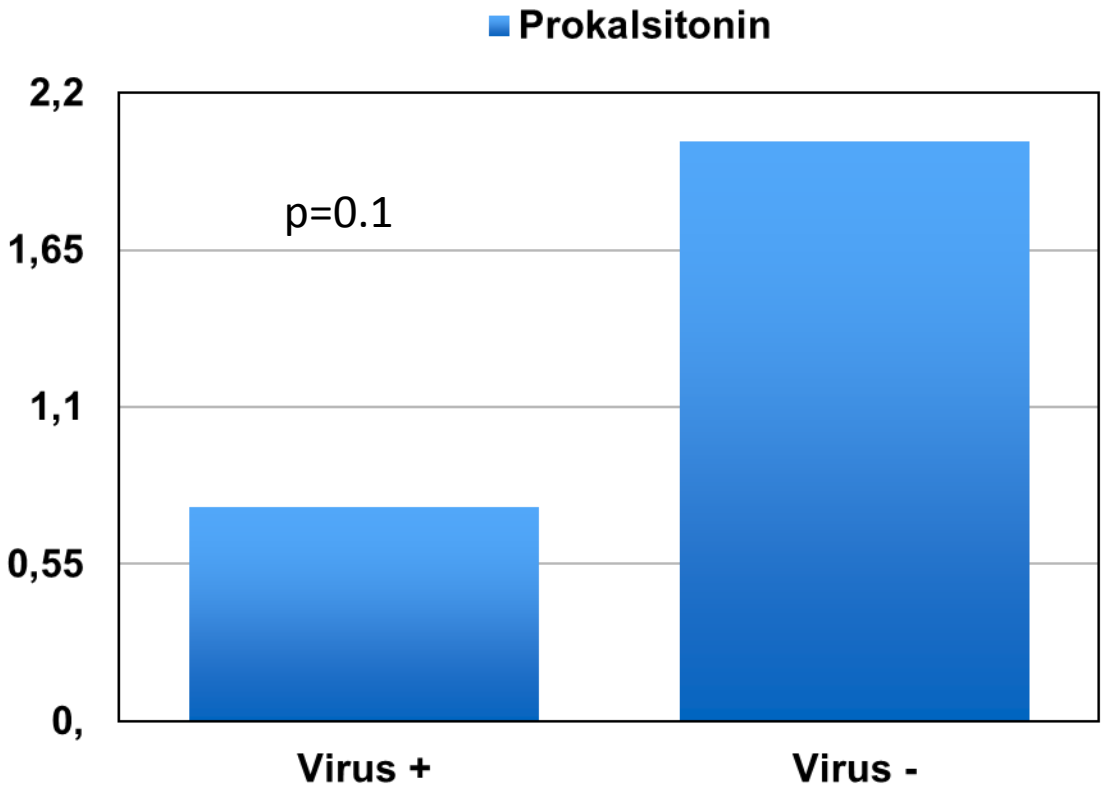
1 Haziran 2013-31 Mayıs 2016



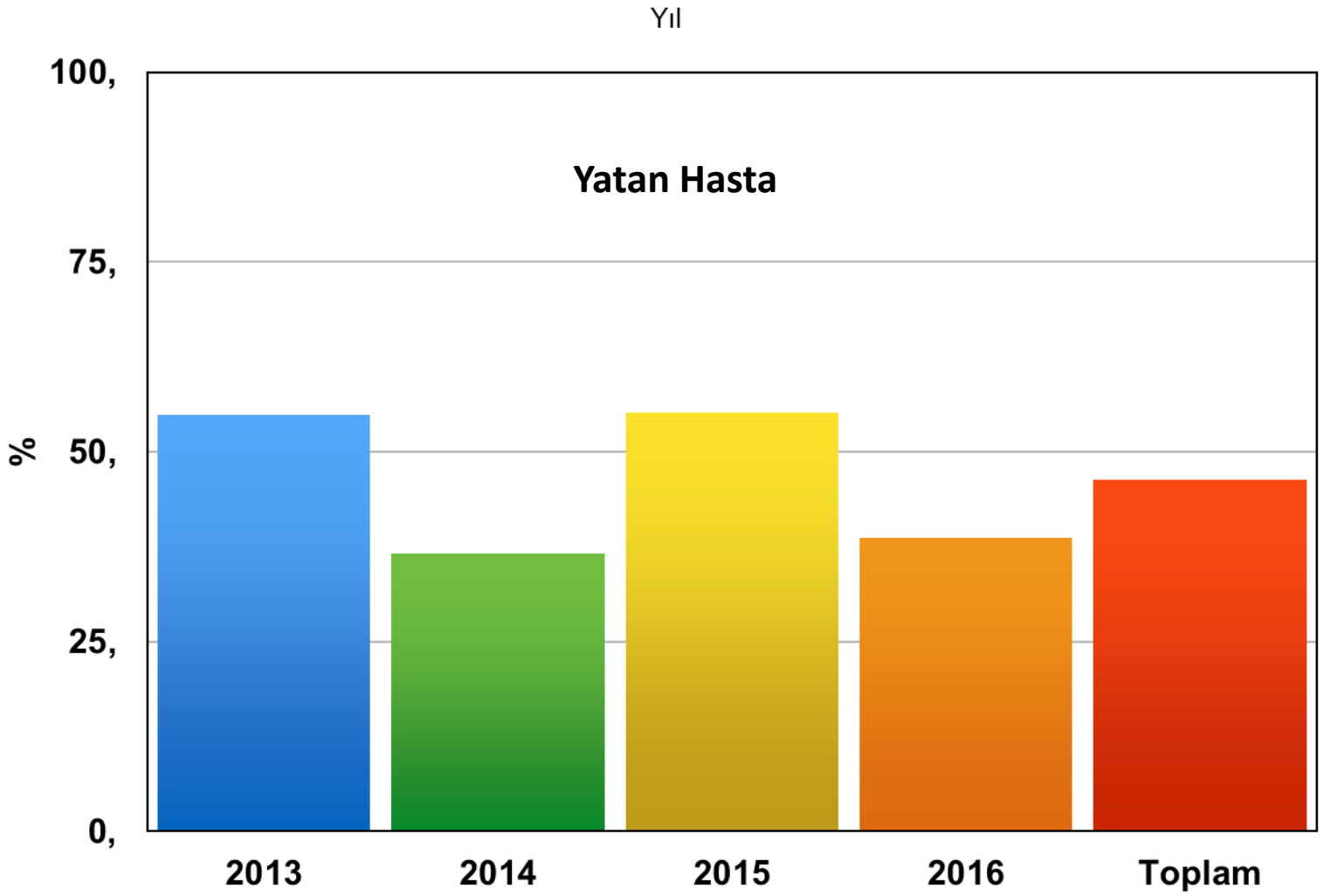
Toplam: 1368 hasta


Solunum panelinde saptanan virusların dağılımı
250
187,5
125
62,5
0
Sayı (n)
236
111
110
89
85
74
57
51
Rhinovirus
Adenovirus
Influenza A
Influenza B
RSV
Corona virus
Metapneumovirus
Parainfluenza
Virus Tipi

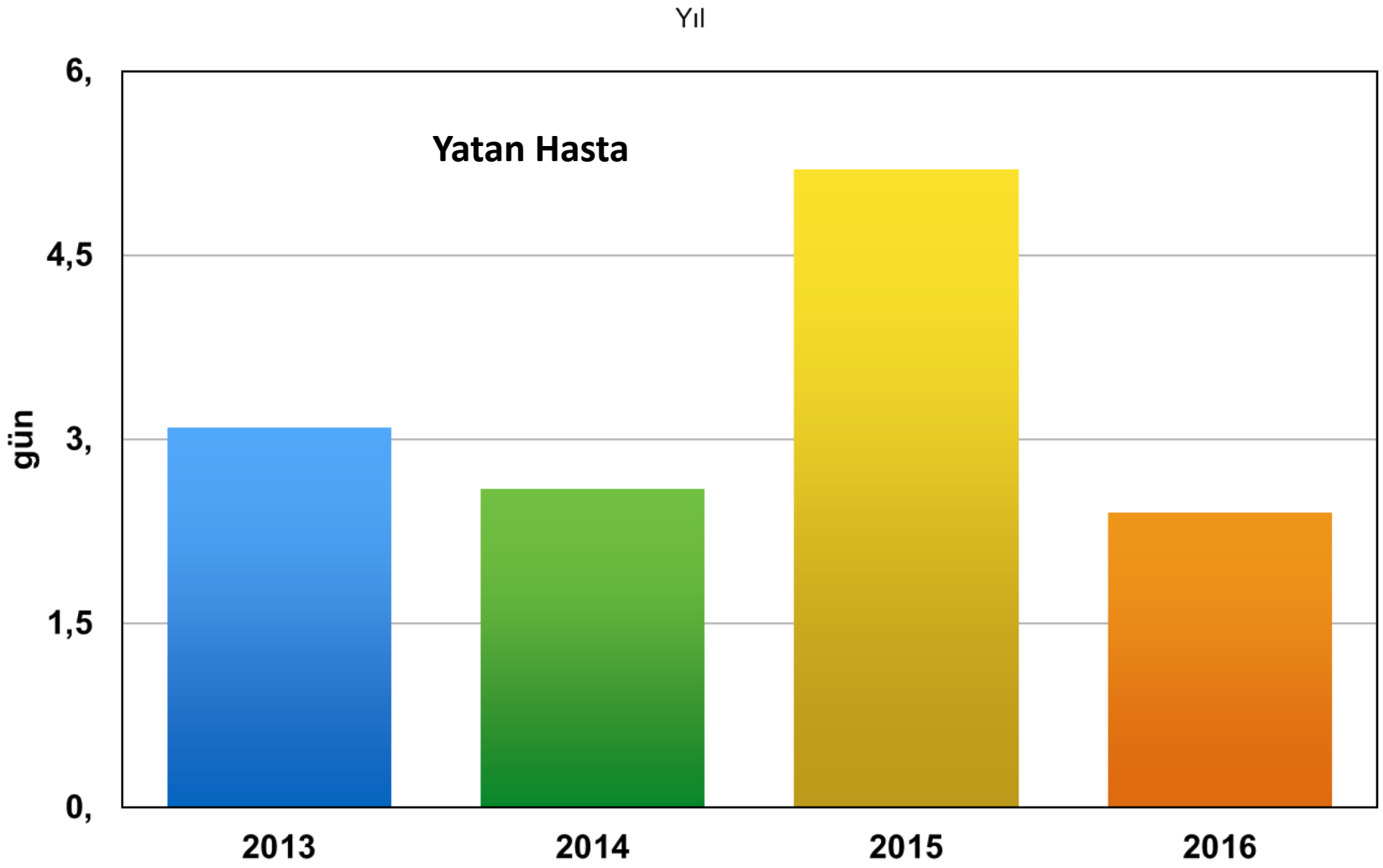

CRP
80
60
40
20
0
mg/L
p<0.001
Virus +
Virus -


Prokalsitonin
2,2
1,65
1,1
0,55
0,
p=0.1
Virus +
Virus -

Virus pozitifliği sonrası antibiyotik tedavisinin devam ettiği hastaların yıllara göre değişimi



Virus saptandıktan sonra ortalama antibiyotik kullanım süresi



Yatan hastalarda virus saptandıktan sonra antibiyotik tedavisinin devam ettiği hastaların logistik regresyon analizi

uygunsuz	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
yas60	3.573731	.8952155	5.08	0.000	2.187242	5.839113
kanser	2.905565	1.067906	2.90	0.004	1.413779	5.971446
hematolojik	5.883134	3.619659	2.88	0.004	1.761563	19.64804
_cons	.2433082	.0252808	-13.60	0.000	.1984784	.2982636

SONUÇ OLARAK

- Antimikrobiyallerin kullanımı sonucu istenmeyen etkiler görülebilmektedir.
- Hastaların istenmeyen etkiler açısından risk durumu tedavi başlanmadan önce değerlendirilmelidir.
- Antibiyotik kullanımın azaltılması amacıyla kullanıma giren PCR bazlı solunum panel testi hastanemizde yaygın kullanılmaktadır. Ancak test sonucunda virus saptanmasına rağmen antibiyotik kullanımı yüksek oranlarda devam etmektedir.
- Hastanemizde antimikrobiyallerin dikkatle ve titizlikle uygulanması ve ve direnç dışında istenmeyen etkiler açısından da yakın takip edilmesi önemlidir.
- Solunum panel testinin hangi durumlarda kullanılmasının daha anlamlı olacağının belirlenmesi gerekli görünmektedir.