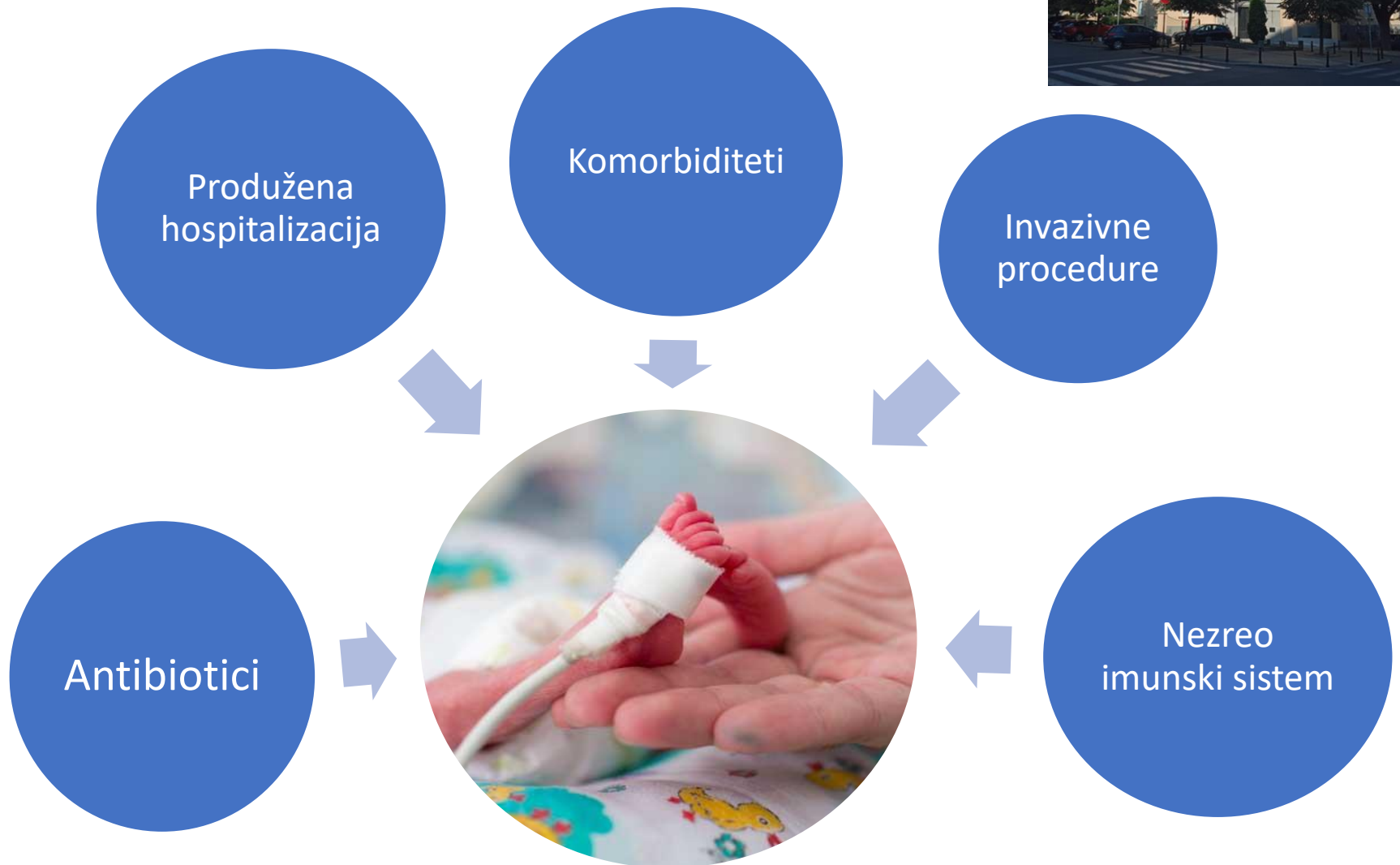


Prikaz epidemije izazvane vrstom *A. baumannii* na odeljenju neonatalne intenzivne nege

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Nacionalni seminar „Primena molekularno-bioinformatičkog pristupa u predviđanju, detekciji i prevenciji epidemija izazvanih pretećim patogenima“



Epidemija *A. baumannii*

- Jedinica intenzivnog lečenja
 - 22 inkubatora
 - Četiri sobe
 - ≈ 450 pacijenata godišnje
 - med. sestra:pacijent = 1:3 / 1:5
- 82 pacijenta - ICU
- Maj – Jul 2018. godine
- 13 pacijenata – potvrđena *A. baumannii* infekcija
- Algoritam na prijemu:
 - a. uzorak krvi za hemokulturu
 - b. empirijska terapija: ampicillin + amikacin



Ciljevi

- Prikaz epidemije infekcija izazvanim vrstom *A. baumannii* kod prevremeno rođene dece na odeljenju neonatalne intenzivne nege
- Prikaz kliničkih i demografskih podataka pacijenata
- Molekularna karakterizacija sojeva *A. baumannii*



Metod

Izolacija i identifikacija	Antibiogram	PCR	MLST	PFGE
Konvencionalne bakteriološke tehnike	Disk difuzioni metod Mikrobujom dilucija Gradijent test	Molekularna potvrda identifikacije: <i>bla</i> _{OXA} -51-like	PCR, prečišćavanje, sekvenciranje 7 "house-keeping" gena: <i>fusA</i> <i>gltA</i> <i>pyrG</i> <i>recA</i> <i>cpn60</i> <i>rpoB</i> <i>rplB</i>	Klonska povezanost izolata <i>Apal</i> restrikcioni enzim CHEF DR III Bio Numerics Cut-off >80%
Vitek2 system	CLSI standard	Detekcija gena rezistencije: <i>bla</i> _{OXA} -23-like <i>bla</i> _{OXA} -24-like <i>bla</i> _{OXA} -58-like <i>bla</i> _{OXA} -143-like		
Kontrola sterilnosti površina				

Klinički podaci i ishodi pacijenata sa potvrđenom *A. baumannii* infekcijom

Patient no. ^a	Hospital day of symptom onset	Other site of <i>A. baumannii</i> isolation	Symptoms	Antimicrobial therapy			Outcome
				Initial therapy ^b	Empiric therapy (hospital day)	Definitive therapy (hospital day)	
1	24	/	Systemic infection		Meropenem (24–27)	Colistin (28–49)	Cured
2	12	Cerebrospinal fluid, tracheal aspirate	Systemic infection, pneumonia, meningitis		Meropenem, ampicillin-sulbactam (12–16)	Colistin, ampicillin-sulbactam (17–40)	Cured, with sequelae
3	3	/	Systemic infection	Yes	Meropenem, ampicillin-sulbactam (4–7)	Colistin (8–29)	Cured
4	17	/	Systemic infection		Colistin, ampicillin-sulbactam (17–20)	Colistin (21–42)	Cured
5	4	/	Systemic infection	Yes	Meropenem, ampicillin-sulbactam (4–7)	Colistin (8–29)	Cured
6	4	Tracheal aspirate	Systemic infection, pneumonia	Yes	Meropenem, ampicillin-sulbactam (day 4)	Colistin (8–29)	Cured
7	3	/	Systemic infection	Yes	Meropenem, ampicillin-sulbactam (4–7)	Colistin (8–29)	Cured
8	4	/	Systemic infection	Yes	Colistin (4–5)	/	Died, day 5
9	9	Tracheal aspirate	Systemic infection, pneumonia		Meropenem, colistin (9–12)	Colistin (13–33)	Cured
10	3	/	Systemic infection	Yes	Colistin (3)	/	Died, day 4
11	4	Tracheal aspirate	Systemic infection, pneumonia	Yes	Meropenem, ampicillin-sulbactam (4–7)	Colistin (8–29)	Cured
12	3	/	Systemic infection	Yes	Meropenem, ampicillin-sulbactam (3)	/	Died, day 4
13	24	/	Systemic infection		Colistin (24)	/	Died, day 31

Antibiogram

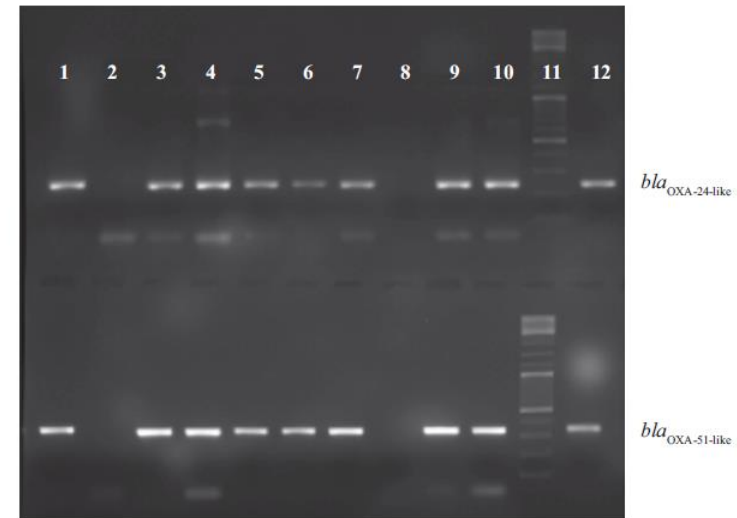
R

- Piperacilin-tazobakta
- Piperacilin
- Imipenem
- Meropenem
- Ceftazidim
- Cefepim
- Trimetoprim-sulfametoksazol
- Gentamicin

S

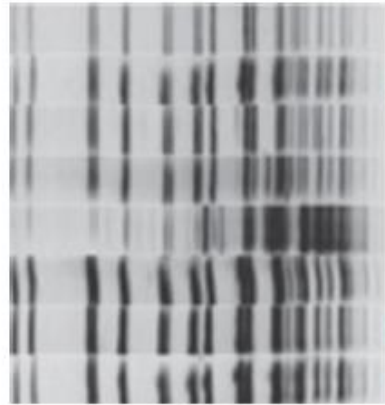
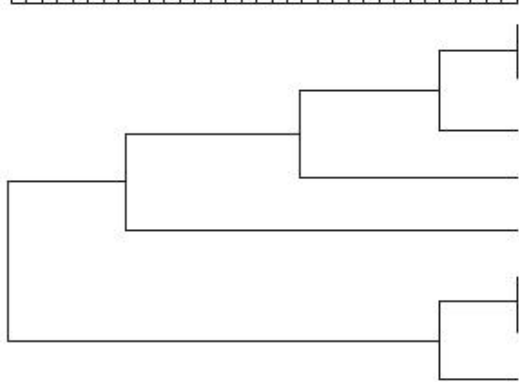
- Kolistin

Detektovani geni rezistencije



Dendrogram PFGE profila invazivnih izolata *A. baumannii*

% of similarity
84 86 88 90 92 94 96 98 100



Patient no.	PFGE profile	Allelic profile	ST
3	a	2122211	636
11	a	2122211	636
9	a	2122211	636
2	b	2122211	636
1	c	2122211	636
7	a	2122211	636
10	a	2122211	636
12	a	2122211	636

Zaključak



- Prepoznavanje novorođenčadi sa visokim rizikom od infekcije
- Primenjivanje striktnih mera kontrole bolničkih infekcija



Clinical and molecular characteristics of OXA-72-producing *Acinetobacter baumannii* ST636 outbreak at a neonatal intensive care unit in Serbia

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