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COMMUNITY-ACQUIRED PNEUMONIA IN PREGNANT. CLINICAL CASE.

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Abstract

Introduction. Community-acquired pneumonia is the leading cause of morbidity and mortality worldwide. The clinical features, diagnosis, and treatment of respiratory infections in pregnant and nonpregnant patients are generally similar, although there are risk factors. The incidence rates of community-acquired pneumonia in pregnant women range from 0.2 to 8.5 per 1,000 births. Concomitant diseases such as asthma, smoking, malnutrition, liver disease, chronic obstructive pulmonary disease, and pregnancy increase the risk of complications. A wide range of microorganisms can cause pneumonia during pregnancy, most of them are rare, but the pathogen has been identified only in 40-60% of cases.

Aim. To present a fatal case of community-acquired pneumonia in a pregnant woman.

Results. The article presents the case of a pregnant woman of 22 years old, with a gestation period of 23-24 weeks. The patient was delivered accompanied by an intensive care doctor in an extremely serious condition with complaints of a feeling of lack of air, abdominal pain, and general weakness. She became acutely ill 4 days ago, with fever and moderate abdominal pain. After 2 days, a sharp abdominal pain appeared. The patient was hospitalized in the department of anesthesiology, intensive care and intensive care. The patient was diagnosed with community-acquired bilateral polysegmental pneumonia, severe course. Severe acute respiratory infection? Multiple organ failure syndrome (MFS). Infectious and toxic shock. Acute respiratory distress syndrome. Thrombocytopenia. Coagulopathy. Right-sided pleurisy. Pregnancy is 23-24 weeks. HELLP syndrome, acute renal failure. The patient was constantly undergoing intensive therapy. Despite this, the patient's condition progressively worsened and biological death occurred on the 6th day of hospital stay. Cause of death: Multiple organ failure. Septic shock. There was a complete coincidence of clinical and pathological diagnoses, no errors in clinical diagnosis were detected.

Conclusions. The above case indicates the possibility of rapid development of community-acquired pneumonia with the addition of progressive complications that led to death. The dynamics of MOF development with unstable hemodynamics, the progression of respiratory distress syndrome on base pregnancy, anemia, progressive thrombocytopenia, the presence of opportunistic flora predetermined the outcome of the disease. It is necessary to strengthen the medical prevention of acute respiratory viral infections and pneumonia in pregnant women from an early stage.

Key words: *pregnancy, community-acquired pneumonia, lethal course.*

Резюме

ВНЕБОЛЬНИЧНАЯ ПНЕВМОНИЯ У БЕРЕМЕННЫХ. КЛИНИЧЕСКИЙ СЛУЧАЙ.

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Введение. Внебольничная пневмония является ведущей причиной заболеваемости и смертности во всем мире. Клинические особенности, диагностика и лечение респираторных инфекций у беременных и небеременных пациенток в целом схожи, хотя имеются факторы риска. Показатели заболеваемости внебольничной пневмонией у беременных варьируют от 0,2 до 8,5 на 1000 родов. Такие сопутствующие заболевания, как астма, курение, неправильное питание, заболевания печени, хроническая обструктивная болезнь легких и беременность, повышают риск осложнений. Широкий спектр микроорганизмов может вызывать пневмонию во время беременности, большинство из них встречаются редко, но возбудитель выявлен только в 40-60% случаев.

Цель исследования. Представить летальный случай внебольничной пневмонии у беременной женщины.

Результаты. В статье приведен случай беременной женщины 22 лет, срок беременности 23-24 недели. Пациентка была доставлена в сопровождении реаниматора в крайне тяжелом состоянии с жалобами на чувство нехватки воздуха, боли внизу живота, общую слабость. Заболела остро,4 дня назад, с повышения температуры и умеренных болей в животе. Через 2 дня появилась резкая боль в животе. Больная была госпитализирована в отделение анестезиологии, реанимации и интенсивной терапии. Больной был выставлен диагноз: Внебольничная двухсторонняя полисегментарная пневмония, тяжелой степени. Тяжелая острая респираторная инфекция? Синдром полиорганной недостаточности (СПОН). Инфекционно-токсический шок. Острый респираторный дистресс синдром. Тромбоцитопения. Коагулопатия. Правосторонний плеврит. Беременность 23-24 нед. HELLP синдром, острая почечная недостаточность. Больной постоянно проводилась интенсивная терапия. Несмотря на это, состояние больной прогрессивно ухудшалось, и на 6 день пребывания в стационаре наступила биологическая смерть. Причина смерти: Полиорганная недостаточность. Септический шок. Имело место полное совпадение диагнозов, ошибок клинической диагностики не выявлено.

Выводы. Приведенный случай свидетельствует о возможности быстрого развития внебольничной пневмонии с присоединением прогрессирующих осложнений, приведших к летальному исходу. В динамике развития СПОНа на фоне нестабильной гемодинамики, прогрессирования респираторного дистресс синдрома на неблагоприятном фоне (беременность, анемия, прогрессирующая тромбоцитопения, наличие условно-патогенной флоры) предопределили исход заболевания. Необходимо усиление медицинской профилактики ОРВИ и пневмонии у беременных с ранних сроков.

Ключевые слова: *беременность, внебольничная пневмония, летальный исход.*

Түйіндеме

ЖҮКТІ ӘЙЕЛДЕРДЕГІ АУРУХАНАДАН ТЫС ПНЕВМОНИЯ. КЛИНИКАЛЫҚ ЖАҒДАЙ.

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Кіріспе. Ауруханадан тыс пневмония бүкіл әлемде ауру мен өлімнің басты себебі болып табылады. Жүкті және жүкті емес науқастардағы респираторлық инфекциялардың клиникалық ерекшеліктері, диагностикасы және емі жалпы бір-біріне ұқсас, дегенмен қауіп факторлары бар. Жүкті әйелдерде ауруханадан тыс пневмониямен ауыру деңгейі 1000 босануға 0,2-ден 8,5-ке дейін өзгереді. Демікпе, темекі шегу, дұрыс тамақтанбау, бауыр аурулары, созылмалы обструктивті өкпе ауруы және жүктілік сияқты қосымша аурулар асқыну қаупін арттырады. Микроорганизмдердің кең ауқымы жүктілік кезінде пневмонияны тудыруы мүмкін, олардың көпшілігі сирек кездеседі, бірақ қоздырғыш тек 40-60% жағдайда анықталады.

Зерттеудің мақсаты. Жүкті әйелде ауруханадан тыс пневмонияның өлімге әкелетін жағдайын ұсыну.

Нәтижелер. Мақалада 22 жастағы жүкті әйелдің жағдайы берілген, жүктілік мерзімі 23-24 апта. Науқас реаниматормен бірге өте ауыр жағдайда ауаның жетіспеушілігі, іштің төменгі бөлігіндегі ауырсыну, жалпы әлсіздік шағымдармен жеткізілді. Ол 4 күн бұрын қызба мен іштің шамалы ауырсынуымен ауырған. 2 күннен кейін іштің

қатты ауыруы пайда болды. Науқас анестезиология, реанимация және қарқынды терапия бөліміне жатқызылды. Науқасқа қойылған диагноз: ауруханадан тыс екі жақты полисегментті пневмония, ауыр дәрежеде. Ауыр жедел респираторлық инфекция? Полиорганды жетіспеушілік синдромы (ПОЖС). Жұқпалы-уытты шок. Жедел респираторлы дистресс синдромы. Тромбоцитопения. Коагулопатия. Оң жақты плеврит. Жүктілік 23-24 апта. HELLP синдромы, жедел бүйрек жеткіліксіздігі. Науқас үнемі қарқынды терапияда жүргізілді. Осыған қарамастан, науқастың жағдайы біртіндеп нашарлап, госпитализацияның 6-шы күні биологиялық өлім болды. Өлімнің себебі: көп мүшелі жетіспеушілік. Септикалық шок. Диагноздардың толық сәйкестігі болды, клиникалық диагностикада қателіктер анықталған жоқ.

Қорытындылар. Бұл жағдай өлімге әкелетін прогрессивті асқынулардың қосылуымен ауруханадан тыс пневмонияның тез даму мүмкіндігін көрсетеді. Тұрақсыз гемодинамика, қолайсыз фонда тыныс алу дистресс синдромының дамуы (жүктілік, анемия, прогрессивті тромбоцитопения, шартты патогендік флораның болуы) аясында ПОЖС-ның даму динамикасында аурудың нәтижесі алдын-ала анықталған болатын. Жүкті әйелдерде ЖРВИ мен пневмонияның медициналық профилактикасын ерте кезеңнен күшейту қажет.

***Түйінді сөздер**: жүктілік, ауруханадан тыс пневмония, өлім.*

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Importance

Community-acquired pneumonia (CAP) is a leading cause of morbidity and mortality worldwide [16,5,18]. The clinical features, diagnosis, and management of respiratory infection are generally similar in pregnant and nonpregnant patients. However, some additional factors need to be considered in pregnancy, including changes in maternal susceptibility to infection, changes in maternal physiology, and the fetal effects of the infection and its treatment. Reported rates varying from 0.2 to 8.5 per 1000 deliveries [14]. In most cases, pneumonia develops when infectious agents reach the lower respiratory tract by inhalation of aerosol material or aspiration of upper respiratory tract microbes. Concomitant conditions such as asthma, smoking, poor nutrition, liver disease, chronic obstructive pulmonary disease, and pregnancy increase susceptibility to complications. Once the infectious agent reaches the lower respiratory tract, direct damage to the lungs and interstitial inflammation results, leading to intrapulmonary bypass and hypoxia. A wide range of organisms can cause pneumonia during pregnancy, most of them are rare, but the causative agent has been identified in only 40-60% [10].

Aim of investigation. To present lethal case of community-acquired pneumonia in pregnant woman.

Material and methods.

Patient A., 22 years old, living in Atyrau, was taken by ambulance to the regional regional hospital at 11:22 a.m. on 24.11.2024 (5th day of illness), accompanied by an intensive care doctor, in extremely serious condition with complaints of a feeling of lack of air, shortness of breath, abdominal pain, general weakness, fever, dizziness, dry mouth. In the emergency room, the respiratory rate (RR) is 24-26/min, SpO2 saturation is 85%, heart rate (HR) is 127/min, blood pressure (BP) is 85/47 mmHg. On examination - pain in the lower abdomen, more on the right, the uterus is tense and toned are revealed. Oxygen and vasopressors are connected.

She became acutely ill on 20.11.2024, 4 days ago, when the temperature rose for 2 days (did not measure), moderate abdominal pain appeared. She took paracetamol, not applied anywhere. On 24.11.2024 in the morning at 05:00 sharp abdominal pain suddenly appeared, in connection with which the patient adressed to an ambulance, was taken to the regional perinatal center, where she was examined by a gynecologist, and an ultrasound examination of the fetus and abdominal organs was performed. Conclusion: Pregnancy is 24 weeks and 2 days. After the examination, gynecologists ruled out gynecological pathology. Due to her critical condition (BP - 85/47 mmHg, PR – 127/min, RR 30/min, SpO2 85%), she was sent to the regional hospital with an accompanying intensive care physician, infusion therapy was performed with 0.9% sodium chloride solution in a volume of 2200 ml, and she was taken to the shock ward of the emergency department. She was examined by a surgeon, a resuscitator, a therapist, and a computer tomography (CT) scan of the chest organs was performed under fetal protection. According to the severity of her condition, the patient was hospitalized in the intensive care and anesthesiology unit (ICAU).

Life history: 22.5 years, no chronic or hereditary diseases, married. She lived in rural areas. First pregnancy was uneventful. She was registered for pregnancy on 20.11.2024. The gestation period was 22 weeks and 6 days. 13.11.2024. she was examined by a therapist at place of residence: no pathology was detected; it was

recommended to register for pregnancy. During this period, she underwent tests according to the list (HIV and parenteral hepatitis tests are negative). During bacteriological examination of urine, Klebsiella pneumoniae 10^5 was isolated. In a common blood count (CBC) hemoglobin (Hb) was 99g/l, leukocytes (L) were 7.75x10^9/l, platelets were 200x10^9/l, and ESR was 31 mm/h. In the urinalysis leukocytes (12) were detected. Thus, the patient had anemia before the present disease, conditionally pathogenic klebsiella was isolated, and moderate inflammatory changes in the urine.

Objective data.

The general condition of the patient is extremely severe, due to intoxication. Conscious, answering questions, sluggish. The body position is forced. The skin and visible mucous membranes are clean and pale. Breathing is rapid, shallow, RR is 30/min. SpO2 is 85%. Breathing is hard in the lungs, there is no wheezing. The heart tones are muted, rhythmic. Blood pressure - 85/47 mmHg., pulse - 127/min. (norepinephrine 5ml/hour). The tongue is dry, covered with a white coating. The abdomen is enlarged due to the pregnancy, is not swollen, participates in the act of breathing. On palpation, it is mild, moderately painful in both iliac regions, the uterus is tense, toned, and sharply painful. The symptom of "shaking" is negative (-) on both sides. Urination through a catheter (urine in a small volume). The symptom of "peritoneal irritation" is questionable. Intestinal motility is being listened to. The stool is regular and formed.

A preliminary diagnosis based on clinical, laboratory and instrumental data was made: Acute appendicitis? Peritonitis. Community-acquired bilateral polysegmental pneumonia. Respiratory failure (RF) 2-3. Sepsis. Septic shock. Iron deficiency anemia (IDA)? Pregnancy is 23-24 weeks.

In dynamics, at 13.25, the condition deteriorated sharply, saturation decreased to 75%, and an attack of loss of consciousness with tonic-clonic seizures developed. According to the severity of the condition, lack of consciousness, increasing clinical symptoms, inadequate and shallow breathing, noninvasive mechanical ventilation (MV) support is connected through a face mask on a BIYOVENT ventilator. After respiratory support, SpO2 is up to 97%.

From the first days the patient was in the ICAU, examined by various specialists, laboratory and instrumental examinations were carried out in dynamics, consultations were organized, and constantly adjusted intensive care was carried out. Hemodynamics was maintained with enhanced vasopressor support. The patient's condition did not stabilize, it continued to deteriorate. On 24.11.2024 at 16.52, antenatal fetal death was recorded. Premature delivery of a dead fetus occurred on 26.11.2024. at 03.36., blood loss was 200 ml. The temperature remained within the normal range during the entire observation period. Pronounced oliguria with transition to anuria was seen.

Computed tomography of the chest organs from 24.11.2024 - a picture of bilateral polysegmental pneumonia. Computed tomography of the brain from 24.11.2024 showed no pathological changes. Computed tomography of the abdominal cavity and retroperitoneal space from 24.11.2024 - picture of stagnation of bile. Splenomegaly. Bilateral effusion pleurisy. Pregnancy. Bilateral pneumonia. Signs of pulmonary edema.

Laboratory tests are presented in tables 1, 2, 3, 4, 5.

Table 1.

Complete Blood Count

Date	Lx10^9/l	Leukoformule					Lymph, %	Mon, %	Eos %	Bas %	RBC	HB	Ht	Plate	ESR	Ret	Note
		proMC, %	MC, %	metaMC, %	stab %	s/n %											
24.11.2024 12:00	3.5										3.6	101	29.4		31		
24.11.2024 manual			4	25	55	8	4	4						43.000			TGN +++
25.11.2024 07.30	6.8		2	21	61	20	4	2			3.2	90	26	31.000	29		TGN +++
26.11.2024 02:23	4.6										2.5	69	20.7				
26.11.2024 05:54	5.4										3.4	94	27		25		
26.11.2024 07:58				18	51	15	12	4						27.000		0.5	TGN +++
27.11.2024 06:37	5.8										2.5	74	21.4				
27.11.2024 09:02				16	54	11	10	6	3					24.000			TGN ++++
28.11.2024 07:00	7.0		2	16	57	9	7	6	3		3.3	98	26.1	15.000	20	0.3	TGN ++++
29.11.2024 05:29	14.6		1	12	51	13	14	9			3.0	89	25.2	31.000			TGN +++
30.11.2024 07:00	3.2		1	14	50	9	20	6	2		2.6	76	22.4	21.000	24		TGN +++
30.11.2024 10:00	1.6										3.1	90	26.4			0.1	

As can be seen from the table 1, leukopenia is observed in the CBC ($3.5x10^9$/l), in the hemogram there is a sharp shift to the left to promyelocytes (proMC) (25%), myelocytes (MC) (45), stab cells - 55%. In dynamics, the shift was aggravated to metamyelocytes (metaMC). A moderate decrease in red blood cells to $3.6x10^{12}$/l, with a decrease in dynamics to 2.5. Ht is 9.3%. Severe thrombocytopenia (at admission 43,000, with a progressive decrease in dynamics).

As can be seen from the table 2 in UT leukocyturia (12), proteinuria (0.759 g/l) os revealed.

As can be seen from the table 3 in biochemical tests, attention is drawn to a marked decrease in total protein (46 g/l), a 2-fold decrease in albumin, an increase in creatinine, and subsequently urea, high level of lactate dehydrogenase (LDG), a moderate increase in liver parameters with a predominance of AST, tests of inflammatory reactions: C reactive protein (CRP) - 247, Ferritin - 1370, Procalcitonin (PCT) - 55.6, D-dimer 12.8.

As can be seen from the table 4 phenomena of pronounced hypocoagulation is revealed.

Table 2.

Urine test.

Date	Color	Transparency	Relative density	Reaction (PH)	Protein, g/l	Glucose	Ketone bodies	L	RBC	Squamous epithelium	Renal epithelium	Bacteria	Mucus
24.11. 2024	straw yellow	cloudy transparent	1010	sour	0.759	-	-	12.	15	8 до 5		++	
25.11. 2024	straw yellow	slightly cloudy	1010	sour	0,66	-	-	10	19	9	4		+++
26.11. 2024	straw yellow	transparent	1014	sour	0,561	-	-	6	27	7	2		
28.11. 2024	straw yellow	transparent	1015	sour	0,396	-	-	5	178	2			

Table 3.

Biochemical tests 1.

Dare	AST, U/l	ALT, U/l	CRP	Protein, g/l	Total bilirubin, mcmol/l	Direct bilirubin, mcmol/l	Allbumin, g/l	Urea, mmol/l	Creatinin, mcmol/l
24.11.2024	136.0	35.0	247.0	46.0	65.3	53.5	19.0	8.2	180.3
25.11.2024	221	33	252	40	66.2		22	7.2	179.1
26.11.2024	223	40	145,9	44	111.1		27	7.6	146,3
27.11.2024	111	25	132	45	144	96.9	27	6.6	124
28.11.2024	285	28	118	47.0	221.1	150.6	32.0	5.1	116
29.11.2024	274,0	20	122.0	50	281,9	198,3	35	5.6	174,0
30.11.2024	136	21	121	41	217,7	149.8	26	7.2	148

Table 3.

Biochemical tests 2.

Date	Potassium, mmol/l	Calcium, mmol/l	Sodium, mmol/l	R. microprots with cardiolipid	Ferritin, ng/ml	LDG, U/l	PCT, ng/mL	D – dimer, mg/l	Troponin, ng/ml	CPC, U/l
24.11.2024	3.4	1.06	132.0	negative	1370.0	916.0	55.6	12.8		
25.11.2024							52.7			
26.11.2024					1030.0	931	42.8	11.0		
27.11.2024							21.9			
28.11.2024					1000	3002	17.4	10,9	0.05	394,0
29.11.2024					1000	3132	7.2			
30.11.2024					1000	1653	3.8	10.2		

Table 4.

Coagulogram.

Date		APTT, sec	Phibrinogen, g/l	PTI, %	INR
24.11.2024	12:30	56	2.6	65	1.52
24.11.2024	19:47		1.6	47	2.11
25.11.2024	07:55	93	1.0	41	1.84
25.11.2024	18:47	86	1.0	53	1.44
26.11.2024	02:24	53	1.0	64	1.27
26.11.2024	06:12	46	0.9	68	1.22
26.11.2024	14:51	69	0.9	79	1.12
26.11.2024	20:39	72	0.9	51	1.50
27.11.2024	06:48	68	0.8	52	1.47
28.11.2024	07:00	67	0.9	59	1.34
29.11.2024	05:46	48	0.9	74	1.16
30.11.2024	06:51	47	0.8	81	1.14

According to table 5, there was a pronounced negative trend in the type of decompensated metabolic lactate acidosis with base deficiency (pH-7.08; Lac-14.8 mmol/L; BE -18 mmol/L; HCO3 -10.5 mmol/L). In addition to the above condition, there are violations of the following indicators: severe hypoglycemia (Glucose-1.5 mmol/l), severe anemia (Hc-72 g/l), VEN disorders: hyperchloremia (Cl-109 mmol/l), hypocalcemia (Ca-1.08 mmol/l). Hypoosmolarity of blood plasma is 281 mmol/l. The remaining laboratory parameters were adjusted to the reference values (K, Na) in dynamics.

Table 5.

Acid Base State tests (ABS).

Date	pH	pCO2, mmHg	pO2, mmHg	ctHb, g/gl	sO2, %	FO2Hb, %	cK+, mmol/l	cNa+, mmol/l	cCa2+, mmol/l	cCl-, mmol/l	Glu, mmol/l	cLac, mmol/l	mOsm, mmol/l	cBase, mmol/l	cHCO3, mmol/l	Residual, mmol/l	FCOHb, %
24.11.2024	7.318	28,1	56,7	100	87,1	86,1	3,52	134	1,02	106	2,7	1,12	272	-10,8	14,1	2,0	
24.11.2024 13:00	264	18,5	223,9	105	99,2	98,6	3,16	134	1,07	106	3,1	8,87	271	-16,8	8,2		
24.11.2024 14:58	7,195	35,6	65	118	87,7	98,6	3,21	137	1,09	104	4,2	10,26	279	-13,4	13,4		
24.11.2024 16:02	7,231	31,2	73,8	131	91,4	90,3	3,46	137	1,11	104	4,7	8,7	279	-13,4	12,8		
25.11.2024	7,231	31,2	73,8	131	91,4	90,3	3,46	137	1,11	104	4,7	8,7	279	-13,4	12,8		
26.11.2024	7,474	25,8	105	75	91,8	95,8	4,12	138,6	1,111	111	5,6	6,46	284	-4,4	18,5		
27.11.2024	7,472	26,5	159,5	88	99,1	96,85	3,69	138,8	1,09	107	6,3	6,04	283	-2,9	18,9		
28.11.2024	7,387	31,8	189,1	104	99,3	96,4	4,64	138,4	1,20	107	5,6	5,69	283	-5,5	18,7		
29.11.2024	7,398	39,3	133,2	91	98,7	96,4	4,9	138,3	1,22	104	5,8	3.1	282.4	-1.0	23,7		2,2
30.11.2024 09:08	7,280	39,9	51,2	88	83,5	81,3	3,47	136	1,11	106	4,7	4,50	277,5	-7,8	18,3		
30.11.2024г. 18:18	7,083	36,1	110	72	96,7	94,8	5,05	139	1,08	109	1,5	14,8	281	-18,0	10,5		

Tests were conducted in search of infectious pathogens: IgG antibodies to the coronovirus S protein were detected on SARS COV-19 enzyme-linked immunosorbent assay (ELISA), which is an indicator of post-vaccination immunity or the result of an anamnestic encounter with the virus. Polymerase Chain Reaction (PCR) for Covid-19 is negative. ELISA for HSV types 1 and 2 are negative. ELISA with Epstein-Barr virus is negative, PCR on DNA of Gondii Toxoplasma is negative, PCR of cytomegalovirus DNA is negative, PCR of DNA of herpes virus of 1,2 types is negative, PCR on RNA of rubella virus is negative. Blood for sterility is negative.

The patient was diagnosed with community-acquired bilateral polysegmental pneumonia, severe. SARI? MOF. Septic shock. Acute respiratory distress (ARDS). Thrombocytopenia. Coagulopathy. Right-sided pleurisy. Pregnancy is 23-24 weeks. HELLP syndrome, acute renal failure. The suspicion of an acute abdomen was removed during the observation and examination by a decision of the council.

Throughout the entire period of stay in the ICAU, the patient received full-fledged complex therapy: etiotropic (antiviral and antibacterial therapy (oseltamivir, meropenem, levofloxacin, vancomycin, colimycin)); pathogenetic (detoxification with correction of ASB, RF, cardiovascular activity, intensive blood replacement, antiuremic therapy using medicinal and hardware methods – ventilation from the first day, hemofiltration, ECMO).

Despite intensive therapy, the patient's condition progressively worsened and on the 6th day of hospital stay (03.11.24. at 22.30) biological death occurred.

The final clinical diagnosis was Community-acquired bilateral polysegmental pneumonia of severe severity. SARI? Complication of the main disgnosis: Respiratory failure of the 3rd degree. Sepsis. Septic shock. MOF. ARDS 3 degree. NFKG. DIC syndrome. Prerenal acute kidney injury (AKI), stage I (RIFLE classification). The oliguric form. Secondary thrombocytopenia. Coagulopathy. Acute liver injury (ALI). Liver failure. Bilateral pleurisy. Ascites. Polyserosite. Pulmonary edema. Swelling of the brain. Coma + drug sedation. ECMO dated 26.11.2024. Concomitant diseases: The postpartum period is 5 days. Antenatal fetal death on 24.11.2024. at the age of 24 weeks and 3 days. Premature birth at 24 weeks+3 days with grade 2-3 fetal maceration. Blood loss of 200 ml.

Pathoanatomic diagnosis. Cause of death: Multiple organ failure. Septic shock. Main diagnosis: SARI. Acute bilateral viral-bacterial bronchopneumonia (during the examination of lung tissue from 03.12.2024, Acinetobacter baumannii was detected). Operations: ECMO dated 26.11.2024. Complication of the main disease: Swelling, softening of the brain. Pulmonary edema. Acute respiratory failure. Sepsis (CBC from 29.12.2024 leukocytes - $14.6x10^9$/l; ESR-24/h; procalcitonin-55.6 ng/ml). Septicemia (upon examination of blood, serous fluid, kidneys and spleen from 03.12.2024, Acinetobacter baumannii was detected in the latter). Hepatosplenomegaly - liver weight 2215g (at N-1600g), spleen weight 380g (at N-180-200 g). Septic shock. Septic myocarditis, thyroiditis, hepatitis, nephritis, cervicitis, endometritis. Polyserositis (300 ml of pleural cavity on the left, 385 ml on the right, 600 ml of serous hemorrhagic fluid in the abdominal cavity). DIC syndrome (erythrocyte stasis and sludge in the vessels of the microcirculatory bed of parenchymal organs; multiple punctate and confluent hemorrhages in the mucous and serous membranes, in the parenchyma and stroma of internal organs). Venous fullness and parinchymatous dystrophy of internal organs. Hydropic dystrophy of hepatocytes. Multiple organ failure. Concomitant diseases: The postpartum period is 5 days. Antenatal fetal death on 11/24/2024 at the age of 24 weeks and 3 days. Premature birth at 24 weeks+3 days with grade 2-3 fetal maceration.

There is a complete coincidence of diagnoses, no errors in clinical diagnosis have been identified.

Discussion

Pneumonia is a fairly common complication during pregnancy and accounts for 4.2% of prenatal admissions for non-obstetric complications [8]. Risk factors for CAP in pregnancy include anemia (hematocrit ≤30 percent [17]), asthma, smoking, illicit drug use, and immunosuppressive illness (eg, HIV/AIDS) or immunosuppressive therapy [12]. Patient had anemia, and it could impact on severe course.

The spectrum of pathogens that cause CAP in pregnant patients is similar to that in nonpregnant patients [22]. In adults, 60-80% of pneumonia is bacterial, 10-20% is atypical, and 10-15% is viral in origin. Most often, one pathogen is pneumococcus, which is responsible for 30-50% of detected cases. They are followed by influenza Haemophilus and Mycoplasma pneumonia. Some adaptations of immune function during pregnancy may also play a role in predisposition to pneumonia and its clinical course. Cytotoxic T cells are suppressed, and T helper type 2 cells prevail over T helper type 1 cells by a 4:01 ratio, which leads to a decrease in the secretion of interleukin-2, interferon-γ, and tumor necrosis factor-β. Natural killer activity has also decreased [6].

The symptoms of bacterial pneumonia during pregnancy are the same as in non-pregnant people. Symptoms include cough in over 90%, sputum production in 66%, shortness of breath in 66%, and pleuritic chest pain in 50% [11]. Patient had similar symptoms of CAP.

A pathological examination of this patient revealed Acinetobacter. Acinetobacter is a gram-negative coccobacillus that has emerged from an organism of questionable pathogenicity to an infectious agent of importance to hospitals worldwide [7]. The organism has the ability to accumulate diverse mechanisms of resistance, leading to the emergence of strains that are resistant to all commercially available antibiotics [15]. In humans, Acinetobacter can colonize skin, wounds, and the respiratory and gastrointestinal tracts [1]. It can also inhabit oral biofilms, predisposing to pneumonia in the event of aspiration into the lower respiratory tract [20,21]. Some Acinetobacter strains can survive environmental desiccation for weeks, a characteristic that promotes transmission through fomite contamination in hospitals [23,3,9]. Community-acquired Acinetobacter pneumonia is typically characterized by a fulminant illness with an abrupt onset and rapid progression to respiratory failure and hemodynamic instability [13,2,4]. Septic shock ensues in around one-third of patients. This infection seems to be more common in Southeast Asia and Australia compared with other regions and has been increasingly reported as a highly fatal disease [19].

This patient developed a pattern of community-acquired bilateral polysegmental pneumonia complicated by grade 3 respiratory failure, sepsis, septic shock, and progressive multiple organ failure syndrome (MOFS). According to the nature of the disease, the onset of the disease was most likely due to a viral infection, which quickly acquired the character of a severe acute respiratory infection and the development of pneumonia of viral and bacterial origin. Late treatment, pregnancy with an unfavorable background, previous immunodeficiency (anemia, weight deficiency, the presence of conditionally pathogenic flora), early development of rapidly progressing serious complications (ARDS, septicemia, progressive thrombocytopenia, acute renal failure with complete anuria, DIC syndrome, MOFS) left almost no chance for a favorable outcome.

Conclusion

The above case indicates the possibility of rapid development of community-acquired pneumonia with the addition of progressive complications that led to death. The clinical picture of pneumonia in this situation was atypical due to the presence of pronounced abdominal syndrome and critical hemodynamic manifestations. The dynamics of MOF development with unstable hemodynamics, the progression of respiratory distress syndrome on background (pregnancy, anemia, progressive thrombocytopenia, the presence of opportunistic flora) predetermined the outcome of the disease. It is necessary to strengthen the prevention of acute respiratory viral infections and pneumonia in pregnant women from an early stage.

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