Bölüm

4

Confirmation Form
Tanımlama Eşeli

An inflammation form SMILEYS, for clinical use, grounded on Claus Steuernagel concept*

Claus Steuernagel tablosu temelinde oluşturulan bir inflamasyon çizelgesi, SMILEYS*

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*This form is established for PPROM infants, and Presented at Prague, 2006, Perinatology Congress, as: Short and Long-Term Outcome of Premature Rupture of Membrane (PROM) Infants
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This form is gathered parameters on inflammation reactions, thus, taken from the Claus Steuernagel concepts taken from Web. From the classical notifications; RUBOR: redness, CALOR: heat, TUMOR: swelling, DOLOR: pain and Dysfunction, mal function, and Type I, II, III and IV systems to inflammation mechanisms established perceptions.

Bu oluşturulan form, inflamasyon reaksiyonlarını bir araya parametreleri toplamak amacını gütmektedir. Claus Steuernagel Formu kullanılarak, eklemeler ile oluşturulmuştur. Klasik inflamasyon parametrelerini; kızarıklık, ısı, şişlik, ağrı ile işlev bozukluklarından, 4 tipin de form üzerinde belirtilmeye çalışılmıştır.

Systemic consideration is established, the parameters be in a single form, collected and get together for easy establishing these findings and give some clue on what will be required for laboratory examination and leading the clinical outcome, for treatment and also for taken care, and future perspectives.

This SMILEYS Form is used retrospective chart evaluation of PPROM cases, thus

the efficiency and the assisting the physician. Prospective meaning is not exactly indicate the efficiency and effectiveness, thus, retrospective demonstrates this aspect. Eligibility is noticed by the filling of the form one, thus, indicates, the Form is some educational considerations for the physician. Required some study indicated at the Form, whether these aspects are being at the patient or not.

Outline
An inflammation form for clinical use, grounded on Claus Steuernagel concept

AIM: Inflammation mechanisms are a multiple system considering concept, they were clustering effect mediated by; cytokines, enzymes, monoamine molecules, chemokines, eicosanoids, prostacyclin's, and several tissue parameters effect themselves.

Grounding Aspects: Claus Steuernagel (Web: 2001 Claus Steuernagel MD ©) indications and this first Unit "Infection-inflammation mechanisms/*İnfeksiyon-inflamasyon mekanizmaları*" is the main grounding knowledge for establishing the SMILEYS Form.

Introduction: The reasoning to establish a form are; diagnostic scoring, knowledge based tables, grouping the evidences for clinical evaluation. The SMILEYS form includes all the all of them. This is not a simple yes or no, or scoring one, evaluation is required.

Notions: There are six parameters; 1) the severity of the inflammation, 2) principles of inflammation mechanisms, 3) clinical findings, 4) laboratory results, 5) predicts on inflammation, 6) evaluation due to the scoring.

Conclusion: PPROM cases, 100 cases at the gestation and 100 newborn infants, for control cases, are scored by this SMILEYS Form, considering the benefit of this Form. This Form is required specal Proficiency for true evaluation of this problem, PPROM.

Key Words: Inflammation Form, Claus Steuernagel predict

Özet
Claus Steuernagel tablosu temelinde oluşturulan bir inflamasyon çizelgesi

Amaç: İnflamasyon mekanizmaları çeşitli sistemlerin birbirleri ile bağlantılı ve etkileşim içinde olduğu bir oluşumdur. Sitokinler, enzimler, mono-amin moleküller, kemokinler, eikosanoidler prostasiklin ve ayrıca doku reaksiyonları mekanizmaları başlatabilmektedir. Bu açıdan tablo genel anlamda tümden irdelenmelidir.

Dayanaklar/Kaynaklar: Claus Steuernagel tablosu temelinde (Web: 2001 Claus Steuernagel MD ©), Birinci Ünitede belirtilen "*İnfeksiyon-inflamasyon mekanizmaları*" çalışmasına dayanılarak, SMILEYS Formu hazırlanmıştır.

Genel Yaklaşım; Bir form oluşturma amacı, tanısal bir kotlama, tanısal bilgi sorgulama ve gruplama amacını gütmektedir. SMILEYS Formu, tüm bu amaçlara hizmet etmektedir. Ancak, bilimsel uzmanlık olması ile doğrusal boyuta ulaşılabileceği de kabul edilmelidir. Basit olarak var ve yok ile puanlama şeklinde bir tanımlama yapısında değildir, yoruma dayalıdır.

Yaklaşım: Başlıca 6 gruptadır; 1) inflamasyonun şiddeti, 2) inflamasyon mekanizmaları, 3) klinik bulgular, 4) laboratuvar sonuçlar, 5) inflamasyon öngörüleri, 6) formdan elde edilen puana göre yorumlama.

Sonuç: Gebelikte PEMR-Preterm Erken Membran Rüptürü (PPROM) olgularında sırasına göre, bu problemi olan ve olmayan şeklinde ayırarak, 100 EMR sorunlu ve 100 EMR sorunu olmayan gebelik ve bebek geriye dönük bakılarak, formun yararlılığına uygulama ile bakılmıştır.

Yorum: Form uzman düzeyinde ve yorumlanması beceri ve medikal bilgi gerektirdiği görülmüştür.

Anahtar Kelimeler: İnflamasyon Formu, Claus Steuernagel tanımlaması

Primer

For a direct target to exact hit, first you must consider from the birth view, even to evaluate from complete body. Physical examination, even a skin problem, physicians inspect all the body, and also taken medical history at detailed aspect.

By this approach, we are considering all the inflammation process, under mechanisms of the inflammation, in a form, for taken in notice.

The Inflammation Form

This Form is established under such headings:

1) S: Severity of the inflammation
2) M: Mechanisms of the inflammation
3) I: Inflammation outcome: clinical findings
4) L: Laboratory results
5) E: Estimation of the inflammation
6) S: Score, obtained, and evaluation

Evaluation Criteria's

1) Inflammation Mechanisms: IMBALANCE
   a. I: Infection
   b. M: Mediatör Release
   c. B: Blood Coagulation
   d. A: Apoptosis
   e. L: Labile, super-antigen
   f. A: Antigen Presentation
   g. N: Neutrophil Activation
   h. C: Complement System
   i. E: Effect on Tissue
2) Severity of Clinical Findings: FUNCTIONAL
   a. F: Functional Variation
   b. U: Unacceptable Adaptation
   c. N: Non-destructive disturbances
   d. C: Compensation period
   e. T: Tissue Reactions Started
   f. I: Impairments Noticed
   g. O: Oxidative Stress, degeneration
   h. N: Noticeable Finding
   i. A: Abnormal Tissue Reactions
   j. L: Lysis, and cellular, tissue death
3) Severity of Laboratory Results: NOTABLE
   a. N: Negative
   b. O: O, zero level
   c. T: Trigger level
   d. A: Appearance of the disease
   e. B: Brief evident
   f. L: Label of disease, diagnostic
   g. E: Excess result

Reasoning to use the Form: SMILEYS

Reasoning to use this Form SMILEYS are:

1) Concerns all the parameters, concerning infection, inflammation and allergic problems. Even if some is not confirmed at the form, can be adding, thus, for each mechanisms section there is a space as indicated as: ***Other Findings***.

2) The severity of the problems, conditions and laboratory results are not only divided as, negative, positive; minimal, moderate and severe. The differentiation of the evidences at clinical findings grounding as from; functional adaptation to lysis and death.

3) For laboratory results, the evaluation is even different group. From negative, not known, not discriminate to minimal to excessive.

4) Causes, tissue and organ findings can be noted; thus, the expected conditions/problems are also indicated at this form.

1. F: Functional variations	6. I: Impairments noticed
2. U: Unacceptable adaptation	7. O: Oxidative Stress and Degeneration
3. N: Nondestructive disturbances	8. N: Noticeable findings
4. C: Compensation period	9. A: Abnormal tissue reactions
5. T: Tissue reactions started	10. L: Lysis, Cell and/or tissue death

CHART 1/A: Evaluation of the inflammation by immunologic mechanisms: SMILEYS

IMBALANCE	Inflammation I: Infection M: Mediator Release B: Blood; coagulation A: Apoptosis L: Labile: Super antigen A: Antigen presentation N: Neutrophil activation C: Complement system E: Effects on Tissues	Cause	Findings	Tissue /organ	Severe FUNCTIONAL	Finding NOTABLE	TOTAL SCORE
I	**Infection**	Ischemia/hypoxia	• Blood gases: pH, pCO_2 • Oxygenation: SAT, pO_2 • Electrolytes: osmolarity • O_2 content, p50 • Metabolic values: LA, PA • Acid-base status, BE				
			BP, Pulse, CVP, capillary refilling				
			Hypoxanthine, hyper-uricemia				
		Mucosal Damage	Edema				
			Spasm/vasoconstriction &/or vasodilatation				
			Laceration, early ulcer				
			Secretion, exfoliation				
			Hypotonic or irritable				
			Dysfunction: • Distension, diarrhea, • Hepatic dysfunctions • Renal ischemia • Cardiac ischemia • Ischemic tissues				
		Translocation of bacteria &/or toxins	Positive culture Positive smear Contamination Trans vaginal Cytology Pathological findings Others	Oral and throat Rectal/stool Skin/umbilical Ear Blood, CNS, Amniotic Fluid Others			
		Reperfusion	Pooling, Vasodilatation				
			Pallor, vasoconstriction				
		Oxidative Stress					
		Immunologic Evaluation (Basal Values)	Neutralizing Immunoglobulin's • Endotoxin; Lipopolysaccharide =LPS, • Teidoic acid =LTA • IL-1, TNF				
			Previous immunologic deficiencies				

			Clinical Handicaps:
			    Preterm infant
			    Malnutrition, IUGR
			    Anemia				

		OTHER FINDINGS					
M	**Mediator Release**	cAMP effects	• Beta (2) adrenergic agonists () o Ibuprofen &/or Vit C response • Beta (2) catecholamine effects • Acet salicylic acid effects (kinase)				
		Immunologic Evaluation	• IL-6, IL-8, IL-1B, TNF alpha • IL-10 • Toll Like Receptors (TLR) • CD 14 • LBP, etc o Lipopolysaccharide Binding Protein (LBP)				
		Mediator Effects	• Edema, urticaria, toxic neonatal eruptions • Vasodilatation, flushing • Itching • Irritability, • diarrhea,				
			Dysfunction: • Abdominal compartment syndrome • Hepatic functions	•			
		OTHER FINDINGS					

"0": None/negative	"++" = Slight
"?" = N/a	"+++" = Obvious
"+" = Suspicious	"++++" = Severe, "+++++" = Excess

1. F: Functional variations	6. I: Impairments noticed
2. U: Unacceptable adaptation	7. O: Oxidative Stress and Degeneration
3. N: Nondestructive disturbances	8. N: Noticeable findings
4. C: Compensation period	9. A: Abnormal tissue reactions
5. T: Tissue reactions started	10. L: Lysis, Cell and/or tissue death

CHART 1/B: Evaluation of the inflammation by immunologic mechanisms, SMILEYS

B	**Blood; coagulation**	• DIC • Fibrinolytic conditions: • Factor II a, X a, IXa, VII • Tissue Factors • Thrombocytopenia • HELP Syndrome	petechia, ecchymosis, hemorrhage, bleeding		Plasma cascade --Complement --Kinin system --Fibrinolytic system --Coagulation cascade --Membrane attack Complex		
		OTHER FINDINGS					
A	**Apoptosis**	• Cell death (Thrombocytopenia) • Immunologic Evaluation					
		OTHER FINDINGS					
L	**Labile: Due to super antigen**	• Anaphylaxis • Sudden alpha & beta receptor collapse • Not primary response; MHC-II, T cells • Fas ligand-perforin • Immunologic Evaluation					
		OTHER FINDINGS					
A	**Antigen presentation**	• Th cells • B cells and plasma, macrophages	(Antigen Presenting Cells = APC)				
		Immunologic Evaluation	Specific increase; IgM, IgG				
		OTHER FINDINGS					
N	**Neutrophil activation**	• Adhesion: accumulation of PMN • Adhesion & phagocytes: MAS, LE cells • Endothelial destruction; ulcers, exama • Trans migration			Cellular Reactions --Entothel adhesion --Transmigration --Chemotacsis		
		Organ Involvement	Skin problems, diaper dermatitis Hepatomegaly; Splenomegaly Omphalitis Diarrhea Conjunctivitis Others:				
		Immunologic Evaluation	TNF alpha, IL-1, C5a, C3a, Fas ligand, perforin				
		OTHER FINDINGS					
C	**Complement system**	• Complement activation; C1, C3, C5 • Acute Phase Reactors; CRP • Membrane attack complex; Coombs positive					
		OTHER FINDINGS					
E	**Effects on Tissues**	• Ear, nose, throat • Scalp, skin • Eye • Umbilical • Pulmonary • Abdomen • Heart • General • Tissue Factors	Rhinitis, URTI Dermatitis, diaper dermatitis Conjunctivitis Omphalitis Pneumonia Abdominal compartment synd. Myocardial Depression Factor Sepsis Syndrome		RUBOR: redness CALOR: heat TUMOR: swelling DOLOR: pain Dysfunction, mal function		
		OTHER FINDINGS					
9	TOTAL	_____ per 9	_____ per 9	_____ per 9	_in9	_in9	+ /9

"0": None/negative	"++" = Slight
"?" = N/a	"+++" = Obvious
"+" = Suspicious	"++++" = Severe, "+++++" = Excess

5) It is give a clue, what test and to which organ system must be evaluated. You can have focused the organ and the results for discussion of the people.

6) It makes you an argument, the findings that result of an inflammation mechanism. This means you must be considered the physio-pathological grounding of them. For further evaluation and outcome, the survey or the expectation of the disease.

7) The pointing has to be balanced. If considered under the evaluation. This from 10 points at FUNCTIONAL; 1-4 compensation status, 5-7 obviously have problem, must be solved, 8-10 treatment means a lifesaving, emergency aspects.

8) Laboratory results evaluation are; 1-2 negative, 3-4 slight, starting the reactions, 5-6 obvious, thus, 7 is excessive, be in danger.

9) Total Score evaluation; If the score, even for one mechanism is over 5 or 6 at 10, 4 at 7, the confirmation is YES, if less than these parameters, be aware and consider the classical aspects as; redness, pain, heat, swelling, disturbing the function. If there is some suspicious state, be follow the mechanism, whether to be in some way demonstrate a problem or disturbed function.

10) The Form is also an educational perspective for the physician, when try to filling, questioning for yes or no, requires searching.

Some Slides concerning SMILEYS

First the functional stages of the tissue/cellular problems.

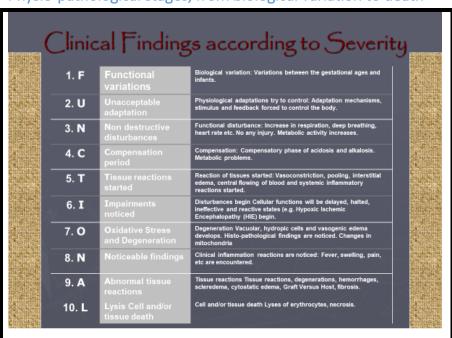## Physio-pathological stages, from biological variation to death

Figure 1: Stages of Clinical Findings and physio-pathological conditions

Figure one, is the reactional state of the diseases in general, form biological, individual variations, thus, each person, everyone has specific reactions. In here indicates ad gestational states, preterm, term and pot term and below 1000grams, 1500 gram, 2500 grams and

immaturity, Intrauterine Growth Retardation etc. Because it is first prepared for PPROM study.

The second step is to discriminate the evidences, from normal, slight to worse.

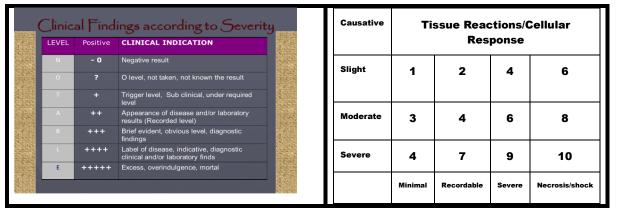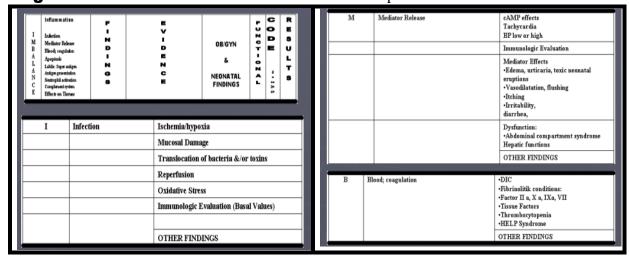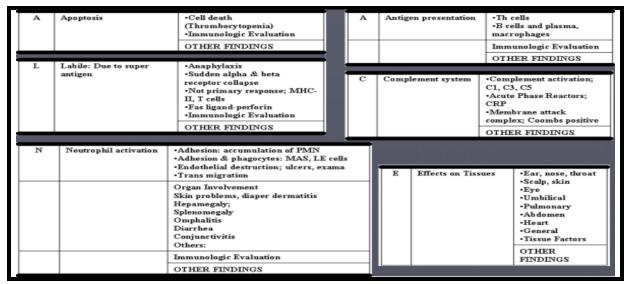## The biological discrimination of the results; negative to severe

Figure 2: Evidence or Causative Factor and Tissue Response

Figure 3-a: The inflammation mechanisms; infection state, mediator release, blood and coagulation conditions.

Figure 3-b: The inflammation mechanisms; apoptosis, anaphylaxis, neutrophil activation, antigen-antibody formation, complement system, and tissue reactions.

For Evaluation and Discussion, from a research result on PPROM

Clinical Evidence FUNCTIONAL	PROM Negative n=56+6 t*=62							Total n	PROM Positive n=54+1 t*=45							Total n
Inflammation reactions IMBALANCE	None n/a	1-4			5-9				Inflammation reactions IMBALANCE	None n/a	1-4			5-9			
		Severity			Severity						Severity			Severity			
		+	++	4+	+	++	4+				+	++	4+	+	++	4+	
None	10							10		8							8
1-5		3	2	2				7			1		1				2
6-10		1	4	5	1	7	27	55				4	2	1	11	17	35
TOTAL (n)	10	4	6	7	1	7	27	62		8	1	4	3	1	11	17	45
(%)	16.1	6.5	9.7	11.3	1.6	11.3	59.7	100		17.8	2.2	8.9	6.7	2.2	24.4	37.8	100

t*=twe n

✤ No findings in   PROM + 17.8 to Negative 16.1%
✤ Minor complaints in PROM + 37.7 to Negative 29.1%
✤ Severe problems in PROM + 44.5 to Negative 71.0%

Figure 4: The PROM (Preterm Rupture of Membrane) positive and negative infants, and Maternal Inflammation evidences, and the clinical problems encountered as; minimal, moderate and obvious.

Yes, and yes indications mean 67,9% problem is confirmed, for early evaluation, before disease encountered, and meaning to be protect before severe and obvious and life-threatening stage.

Early estimation the inflammation and the severity before it is going worse

MOTHERS (n-%) PROM		INFANTS (n-%) Inflammation reactions IMBALANCE		
		YES	NO	TOTAL
Positive		36 – (81.8%)	8 – (18.2%)	44 – (100%)
Negative		46 – (82.1%)	10 – (17.9%)	56 – (100%)
	Other Inflammation YES	36 – (94.7%) [78.3%]	2 – (5.3%) [20%]	38 – (100%) [67.9%]
	Other Inflammation NO	10 – (66.7) [21.7%]	8 – (33.3) [80%]	18 – (100%) [32.1%]
	Total (n-%)	46 – (82.1%) [100%]	10 – (17.9) [100%]	56 – (100%) [100%]

Figure 5: Mother and infant, thus, imbalance ratio as yes or no, even for other perinatal conditions, problems, diseases.

Conclusion

From the physician perspective, the evaluation and consideration, in order the finding and the laboratory evidence obtained from the patient. Then making a searching on them.

This SMILEYS Form, at inflammation, the other parameters, and the problem is connection with other evidences, thus some reactions in counter and similar effects, triggered a cluster of the reactions. Antigen presentation, later antibody formations, thus, needs a duration to be established, first IgM, so follow up IgG etc.

The balancing the degree and the severity, confirms the clinical status and the treatment stages, from protection to wide multi system treatment.

The PPROM evaluation results are also added, thus, PPROM study is considered at the flowing research. This might be a 10 years old evaluation, thus, still an example for this Form.