DAFTAR PUSTAKA

Anderson, Robert H et al. Development and structure of the atrial septum. Heart 2002; 88: 104-10

Aro, AL et al. Intraventricular Conduction Delay in a Standard 12-Lead Electrocardiogram as a Predictor of Mortality in the General Population. Circulation: Arrhythmia and Electrophysiology 2011;4:704-10

Bayar, Nermin et al. The importance of electrocardiographic findings in the diagnosis of atrial septal defect. Kardiologia Polska 2015; 73, 5:331-36

Baumgartner, Helmut et al. ESC Guidelines for the management of grown-up congenital heart disease (new version 2010). European Heart Journal 2010; (31): 2915-2957

Berger, Felix et al. Comparison of result and complications of surgical and amplatzer device closure of atrial septal defect. The Journal of Thoracic and Cardiovascular Surgery 1999; 118(4): 674-80

Bernardo, Stefano Di et al. Impact of right ventricular size on ECG after percutaneous closure of atrial septal defect with Amplatzer Septal Occluder. Swiss Medical Weekly 2005; 135: 647-51

Bernstein D. Congenital heart disease : Nelson textbook of pediatrics. Edisi ke-18. Philadelphia : Saunders Elsevier 2007:1878-81

Bhattacharyya PJ. 'Crochetage' sign on ECG in secundum ASD: clinical significance. *BMJ Case Rep*. 2016;2016:bcr2016217817. Published 2016 Oct 8. doi:10.1136/bcr-2016-217817

Bhattacharya PT, Ellison MB. Right Ventricular Hypertrophy. [Updated 2021 Aug 7]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK499876/

Bosch, Annemien E. van den et al. Characterization of atrial septal defect assessed by real-time 3-dimensional Echocardiography. Journal of American Society of Echocardiography 2006; 19: 815-21

Campbell, Maurice. Natural history of atrial septal defect. British Heart Journal 1970; 32: 820-26

Davies, D Hywel et al. Electrocardiographic changes in atrial septal defect following surgical correction. British Heart Journal 1960; 274-80

Doll, Nicolas et al. Secundum ASD closure using a right lateral minithoracotomy : 5 years experience in 122 patients. Annual Thoracic Surgery 2003; 75: 1527-31

Douedi S, Douedi H. P wave. [Updated 2021 Jul 26]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK551635/

Du, Zhong-Dong et al. Comparison between transcatheter and surgical closure of secundum atrial septal defect in children and adults. Journal of the American College Cardiology 2002; 39(11): 1836-44

Gautschi O & Naegeli B. Cardiac memory mimicking myocardial ischaemia. *J R Soc Med*. 2003;96(3):131-132. doi:10.1258/jrsm.96.3.131

Gervasi, Lisa et al. Atrial septal defect devices used in the cardiac catheterization laboratory. Progress in Cardiovascular Nursing 2009; 24(3): 86-9

Geva, Tal et al. Atrial Septal Defect. The Lancet Published online April 9, 2014; http://dx.doi.org/10.1016/S0140-6736(13)62145-5

Gloan, Laurianne Le et al. Pathophysiology and natural history of atrial septal defect. Journal of Thoracic Disease 2018; 10(24): 2854-63

Hanslik, Andreas et al. Predictors of spontaneous closure of isolated secundum atrial septal defect in children : A longitudinal study. PEDIATRICS 2006; 118: 1560-65

Helgason H & Jonsdottir G. Spontaneous closure of atrial septal defect. Pediatric Cardiology 1999; 20(3): 195-99

Helmy, Mazdar. Perbandingan hasil penutupan defek septum atrium sekundum antara trasnkateter menggunakan Amplatzer Septal Occluder dengan pembedahan. Paediatrica Indonesiana 2013; 53: 108-16

Heller, J et al. “Crochetage” (Notch) on R Wave in Inferior Limb Leads: A new Independent Electrocardiographic Sign of Atrial Septal Defect. Journal of the American College of Cardiology 1996;27(4):877-82

Hermawan, Budi Junio et al. Profil penyakit jantung bawaan di instalasi rawat inap anak RSUP Dr. M. Djamil Padang periode januari 2013-desember 2015. Jurnal Kesehatan Andalas 2018; 7(1): 142-48

Himral P, Kudial S, Sharma KN, Kumar J. Crochetage Sign. Journal of The Association of Physician of India 2016;65

Hosseini, Hadi S et al. A new hypothesis for foregut and heart tube formation based on differential growth and actomyosin contraction. Development 2017; 144(13):2381-91

Johnson JN, Marquardt ML, Ackerman MJ, Asirvatham SJ, Reeder GS, Cabalka AK, Cetta F, Hagler DJ. Electrocardiographic changes and arrhythmias following percutaneous atrial septal defect and patent foramen ovale device closure. Catheter Cardiovasc Interv. 2011 Aug 1;78(2):254-61. doi: 10.1002/ccd.23028. Epub 2011 May 11. PMID: 21563292.

Kamphuis, Vivian P. et al. Electrical *remodeling* after percutaneous atrial septal defect closure in pediatric and adult patients. International Journal of Cardiology 2019; 285:32-39

Kashani A & Barold SS. Significance of QRS Complex Duration in Patients with Heart Failure. Journal of the American College of Cardiology 2005;46(12):2183-92

Kashou AH, Basit H, Chhabra L. Electrical Right and Left Axis Deviation. [Updated 2021 Apr 30]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK470532/

Kiserud, Torvid. Physiology of the fetal circulation. Seminar in Fetal & Neonatal Medicine 2005;10:493-503

Kort, Henry W. et al. Resolution of right heart enlargement after closure of secundum atrial septal defect with transcatheter technique. Journal of the American College Cardiology 2001; 38(5): 1528-32

Mansour, Amr et al. Comparison of early cardiac electromechanical *remodeling* following transcatheter and surgical secundum atrial septal defect closure in adults. The Egyptian Heart Journal 2021;73(53):1-10

Mills N. L. & King T. D. Nonoperative closure of left-to-right shunts. Journal of Thoracic Surgery 1976; 72(3): 371-78

Mostafa SA, Abdelhakim A, Aboelazm TH, Arafa AS, Elemam AM. Effect of Transcatheter Closure of Secundum Atrial Septal Defect on Cardiac *Remodeling*. International Journal of Heart Rhythm 2017;2:40-8

Nagree, Suraj Wasudeo. Atrial septal defect : management approach in children. Letter to Editor Pacificejournals 2017

Naqvi, Nitha et al. Anatomy of atrial septum and interatrial communications. Journal of Thoracic Disease 2018; 10(24): 2837-47

Nicolay, Simon et al. CT imaging features of atrioventricular shunts : what the radiologist must know. Insight Imaging 2016; 7(1): 119-29

Post, M. C. Association between pulmonary hypertension and an atrial septal defect. Netherland Heart Journal 2013; 21: 331-32

Rana, Bushra S. Echocardiography guidance of atrial septal defect closure. Journal of Thoracic Disease 2018; 10(24): 2899-908

Rao, P Syamansundar. Atrial Septal Defect- A Review. Book of Texas Medical School 2012; Chapter 1: 1-20

Rao, P Syamansundar. Summary and comparison of atrial septal defect closure devices. Current Interventional Cardiology Reports 2000; 2(4): 367-76

Rao PS & Haris AD. Recent advances in managing septal defects : atrial septal defects [version 1; referees: 2 approved]. F1000Research 2017; 6: 2042

Rao, Seema S. et al. Clinical use of Amplatzer Septal Occluder device in the management of intracardiac defects: A single center experience. International Journal of Angiology 2018; 27: 39-42

Rich JD, Thenappan T, Freed B, Patel AR, Thisted RA, Childers R, Archer SL. QTc prolongation is associated with impaired right ventricular function and predicts mortality in pulmonary hypertension. Int J Cardiol. 2013 Aug 10;167(3):669-76. doi: 10.1016/j.ijcard.2012.03.071. Epub 2012 Mar 27. PMID: 22459397; PMCID: PMC3389574.

Rojas, Carlos A. et al. Embriology and developmental defects of interatrial septum. AJR 2010;195:1100-04

Sattar Y, Chhabra L. Electrocardiogram. [Updated 2021 Jul 31]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK549803/

Shaheen, Joseph et al. Effect of surgical repair of secundum-type atrial septal defect on right atrial, right ventricle and left ventricular volumes in adult. The American Journal of Cardiology 2000; 86: 1395-97

Silvestry, Frank E. Guidelines for echocardiographic assessment of atrial septal defect and patent foramen ovale : from the American Society of Echocardiography and Society for Cardiac Angiography and Intervention. Journal of American Society of Echocardiography 2015; 28: 910-58

Sridharan, Shankar et al. Atrial Septal Defect. Cardiovascular MRI in Congenital Heart Disease 2010; 24-25

Stout, Karen K. et al. 2018 AHA/ACC Guideline for the management of adults with congenital heart disease : A report of the American College of Cardiology/American Heart Association Task Force on Clinical Practices Guidelines. Circulation 2018; 139: 698-800

Sugimoto, Masaya et al. Volume overload and pressure overload due to Left-to-Right shunt-induced myocardial injury. Circulation Journal 2011; 75: 2213-19

Teo, Karen SL et al. Assesment of atrial septal defect in adults comparing cardiovascular magnetic resonance with transoesophageal echocardiography. Journal of Cardiovascular Magnetic Resonance 2010; 12: 44,1-6

Thilen U & Persson S. Closure of atrial septal defect in the adult, Cardiac *remodeling* is an early event. International Journal of Cardiology 2006; 108: 370-375

Turner, Daniel R. et al. Closure of secundum atrial septal defect with Amplatzer Septal Occluder: A prospective, multicenter, post-approval study. Circulation Cardiovascular Intervention 2017; 10: e004212

Veldtman, Gruschen R et al. Right ventricular form and function after percutaneous atrial septal defect device closure. Journal of the American College Cardiology 2001; 37(8): 2108-13

Wang MX, Wu GF, Gu JL, Li L, Lu K, Yang D, Chen L, Zhang X, Luo FT, Michaels AD, Ma H. Defective T wave combined with incomplete right bundle branch block: a new electrocardiographic index for diagnosing atrial septal defect. Chin Med J (Engl). 2012 Mar;125(6):1057-62. PMID: 22613531.

Webb G & Gatzoulis MA. Atrial Septal Defect in the Adult. Circulation 2006;114:1645-53

LAMPIRAN : PERSETUJUAN ETIK

KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS HASANUDDIN FAKULTAS KEDOKTERAN
KOMITE ETIK PENELITIAN KESEHATAN
RSPTN UNIVERSITAS HASANUDDIN
RSUP Dr. WAHIDIN SUDIROHUSODO MAKASSAR
Sekretariat : Lantai 2 Gedung Laboratorium Terpadu
JL.PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10 MAKASSAR 90245.
Contact Person: dr. Agussalim Bukhari.,MMed.PhD, SpGK TELP. 081241850858, 0411 5780103, Fax : 0411-581431

REKOMENDASI PERSETUJUAN ETIK
Nomor : 423/UN4.6.4.5.31/ PP36/ 2020

Tanggal: 29 Juni 2021

Dengan ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan Dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :

No Protokol	UH21060397	No Sponsor Protokol	
Peneliti Utama	**dr. Andi Renata Bastario**	Sponsor	
Judul Peneliti	Perubahan parameter elektrokardiografi pada penderita defek septum atrium sekundum pasca intervensi di RSUP DR. Wahidin Sudirohusodo		
No Versi Protokol	**1**	Tanggal Versi	23 Juni 2021
No Versi PSP		Tanggal Versi	
Tempat Penelitian	**RS Dr. Wahidin Sudirohusodo Makassar**		
Jenis Review	[x] Exempted [ ] Expedited [ ] Fullboard Tanggal	Masa Berlaku **29 Juni 2021** sampai **29 Juni 2022**	Frekuensi review lanjutan
Ketua Komisi Etik Penelitian Kesehatan FKUH	Nama **Prof.Dr.dr. Suryani As'ad, M.Sc.,Sp.GK (K)**	Tanda tangan	
Sekretaris Komisi Etik Penelitian Kesehatan FKUH	Nama **dr. Agussalim Bukhari, M.Med.,Ph.D.,Sp.GK (K)**	Tanda tangan	

Kewajiban Peneliti Utama:

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
- Menyerahkan Laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan Lapor SUSAR dalam 72 Jam setelah Peneliti Utama menerima laporan
- Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah
- Menyerahkan laporan akhir setelah Penelitian berakhir
- Melaporkan penyimpangan dari prokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan

LAMPIRAN : DATA PENELITIAN

No.	No. RM	Jenis Tindakan	IMT	ASD TTE (mm)	ASD TEE (mm)	Flow ratio	PVR	WBC	Hb	PLT	Ur	Cr	SGOT	SGPT	PT	INR	APTT	Na	K	Cl
1	609571	*Device closure*	23.1	18	20	2.8	3.9	9.6	13.2	303	24	0.67	26	21	10.1	0.97	28.4	145	4.5	108
2	665105	*Device closure*	19.0	19	23	2.5	2.4	8.7	13.5	362	19	0.6	23	18	11.9	1	32	143	3.9	104
3	534907	*Device closure*	21.7	15	20	3.2	4.4	6.7	14.4	315	20	0.8	15	13	9.7	0.93	28.5	144	3.9	108
4	551843	*Device closure*	15.2	10	17	2.1	1.3	8.3	12.7	246	29	0.5	45	17	11.9	1.15	26.6	139	3.9	103
5	668863	*Device closure*	20.3	20	24	3.9	3.6	7.9	13.3	246	25	0.6	25	19	11.2	1.08	28.1	143	4.1	105
6	708446	*Device closure*	15.6	12	15	2.4	1.1	8.8	12.2	203	20	0.5	21	8	10.4	1.01	29.7	142	4.1	107
7	702092	*Device closure*	14.1	14	16	2.6	2.3	10.5	13.9	349	33	0.1	23	11	10	0.96	26	146	4.1	111
8	698184	*Device closure*	24.2	20	26	4.3	3.5	9.6	11.2	309	23	0.66	20	15	9.8	0.94	24	143	4.4	111
9	759974	*Device closure*	25.5	8	12	2	0.9	10.7	14	274	15	0.66	18	14	9.9	0.95	24	143	3.7	109
10	746540	*Device closure*	17.9	16	24	1.8	2.5	6.4	11.6	222	18	0.69	33	33	10.2	0.98	30.8	145	4	107
11	598557	*Surgical closure*	15.4	11	15	1.9	2.1	17.2	12.6	519	31	0.4	34	19	10.8	1.01	29.8	141	4.6	103
12	789034	*Device closure*	21.1	8	12	1.8	1.2	14.5	11.4	225	25	0.28	62	13	10.9	1.03	26.3	138	4.7	104
13	744068	*Surgical closure*	21.4	24	32	6.8	3.7	6.8	13.9	375	16	0.52	18	13	10.2	0.95	28.2	142	3.6	103
14	790447	*Device closure*	24.9	22	28	3.9	0.8	8	14.1	302	12	0.38	16	14	10	0.89	26.9	143	3.2	102
15	766149	*Device closure*	16.9	19	25	3.7	3.8	7.5	14.1	292	20	0.3	23	11	11.4	1.08	27.9	140	3.1	98
16	812407	*Device closure*	21.5	19	24	3.9	3.2	7.8	12.4	179	16	0.74	26	24	11	1.03	26.8	143	3.2	107
17	819398	*Device closure*	19.1	21	26	6.5	0.3	10.6	13.1	302	18	0.54	19	25	10.6	1	27	140	3.9	104
18	858608	*Device closure*	20.0	20	24	3.2	4.27	6.5	16.3	181	28	0.88	81	259	10.4	0.98	26.1	143	3.1	101
19	869601	*Device closure*	20.5	20	35	6.4	2.7	6	12.8	241	23	0.78	37	26	11.4	1.1	30.5	142	4.1	107
20	848335	*Device closure*	11.6	8	18	1.9	1.1	12.2	13.3	406	22	0.45	38	22	10.8	1.04	36.3	143	4.4	106
21	876380	*Device closure*	28.0	40	42	4	1.1	6.4	15.3	297	16	0.73	22	22	9.9	0.95	27.3	142	4.2	107
22	529857	*Device closure*	26.6	25	31	5.2	3.1	10.8	15.3	332	25	1.06	46	51	10	0.96	25.9	140	4.6	102
23	878754	*Device closure*	17.6	28	26	4.7	1.2	5.87	11.3	292	20	0.63	10	7	11.2	1.08	27.1	143	4.3	105
24	878391	*Device closure*	23.4	26	28	3.5	2.3	11	12.7	377	14	0.51	16	11	10.6	1.02	29.2	139	3.4	105
25	867179	*Device closure*	13.3	38	41	6.3	1.6	7.7	15.4	358	14	0.53	26	56	10.6	1.02	25.1	140	3.9	106
26	563887	*Device closure*	24.2	33	33	1.6	2.2	8.3	15.6	298	14	0.61	15	11	10.9	0.99	33.3	143	4.1	109
27	796561	*Surgical closure*	21.8	22	25	2.18	4.42	8.5	14.9	270	31	0.72	27	29	10.7	1	26.5	144	3.4	106
28	819597	*Surgical closure*	18.9	24	34	5.79	0.5	6.8	11.8	276	11	0.44	14	8	10.1	0.92	27.1	142	3.7	108
29	821111	*Surgical closure*	20.8	24	26	2.2	0.2	8.1	16.4	303	34	0.75	96	162	9.3	0.87	22.3	143	4	103
30	802809	*Surgical closure*	18.8	22	24	3.4	1.7	9.1	12.3	297	11	0.46	14	24	10.9	1.03	24.6	140	3.9	104
31	833493	*Surgical closure*	15.4	18	22	2.9	1.9	8.6	15.5	248	27	0.62	25	27	11.7	1.11	31.2	144	3.9	104
32	849342	*Surgical closure*	19.0	26	40	2.7	2.8	6.8	13.6	269	57	0.81	30	41	11.3	1.07	26.6	145	4	101
33	841123	*Surgical closure*	21.9	20	22	2.2	1.5	7.3	13.6	293	19	0.72	12	12	9.7	0.91	25.1	143	4	103
34	835129	*Device closure*	11.6	21	23	2.6	1.8	6.9	11.3	327	14	0.43	38	12	10.3	0.97	30.5	142	4.1	104
35	855203	*Surgical closure*	17.5	20	25	3.3	2	10.4	12.4	273	21	0.58	20	9	10.5	0.87	26.5	138	4	101
36	856770	*Surgical closure*	19.8	16	21	4.43	1.5	7.1	16.6	257	21	0.97	20	23	12	1.16	27.7	137	4.3	101
37	857034	*Surgical closure*	35.1	14	16	3.75	2.19	11.8	13.2	414	10	0.57	17	11	10.9	1.05	30.7	138	4.5	103
38	849847	*Surgical closure*	25.2	25	28	1.55	1.04	10.8	15.8	323	24	0.88	22	47	10.3	0.97	26.8	145	4.3	106
39	869177	*Surgical closure*	16.8	14	20	2.55	4.24	2.9	10.6	150	16	0.6	20	13	11.2	1.08	34.5	138	4.2	106
40	857746	*Surgical closure*	13.4	24	30	3.7	4.5	6.4	12.7	170	16	0.64	17	16	11.6	1.13	28.3	140	3.2	104
41	868788	*Surgical closure*	22.2	15	22	2.5	2.5	7.9	15.2	360	19	0.65	22	29	10.6	1.02	25	137	3.5	100
42	852750	*Surgical closure*	14.4	22	25	5.2	3.5	5.6	11.1	205	28	0.54	19	14	11.5	1.11	33.2	142	4	106
43	822679	*Surgical closure*	20.8	28	34	2.3	4.1	7.4	15.1	310	13	0.9	15	14	11.4	1.11	27.6	142	4.1	103
44	873166	*Surgical closure*	14.1	43	47	3.7	3.3	10.6	10.6	404	21	0.55	29	30	12.4	1.21	31.4	134	4	103
45	893767	*Surgical closure*	18.3	15	17	1.7	2.3	9.6	13.8	325	20	0.54	17	15	10	0.96	28.1	143	4.7	105
46	895495	*Surgical closure*	19.5	32	40	3.3	2.1	6.9	13	229	26	0.8	21	29	11.3	1.09	33.7	141	4.2	109
47	928889	*Device closure*	19.0	17	18	3.6	0.5	8.8	13.1	358	19	0.5	22	8	11.5	1.11	29	141	3.9	105
48	871058	*Device closure*	13.9	24	24	5.7	0.5	12.5	13.6	343	15	0.42	23	9	11.1	1.07	30.9	137	4.3	110
49	817878	*Device closure*	21.9	10	12	1.8	0.7	11.3	13.5	527	14	0.38	30	22	10.4	1	27.1	146	4.5	113
50	883532	*Device closure*	14.8	29	34	3.6	3.5	9.2	12.9	262	13	0.42	16	11	10.9	1.05	29.3	140	3.9	103
51	936059	*Device closure*	23.4	27	36	3.4	1.7	9.7	14.9	226	26	0.21	26	24	10.7	1.06	23.4	142	4	108
52	925152	*Device closure*	21.5	20	25	6.9	3	5.9	14.7	261	20	0.66	18	15	12.2	1.19	27.9	140	4.2	110
53	925505	*Device closure*	16.0	12	16	1.7	0.3	17.1	12.3	189	22	0.27	40	12	10.4	1	28	137	4.6	109
54	936263	*Device closure*	22.2	20	21	2.2	3.2	8.1	14	324	21	0.55	23	18	10.3	0.99	27.7	138	3.7	108

No.	No. RM	Laju jantung (bpm)			Amplitudo P (mv)			Durasi P (ms)			Interval PR (ms)			Durasi QRS (ms)		
		Pra	< 24 jam	> 6 bulan	Pra	< 24 jam	> 6 bulan	Pra	< 24 jam	> 6 bulan	Pra	< 24 jam	> 6 bulan	Pra	< 24 jam	> 6 bulan
1	609571	71	68	NA	0.224	0.144	NA	110.4	86.4	NA	200.8	180	NA	128.4	102	NA
2	665105	81	80	NA	0.246	0.121	NA	118	89.6	NA	212.4	186	NA	133.6	104	NA
3	534907	64	63	NA	0.187	0.105	NA	100.8	75.2	NA	193.6	168.8	NA	124.8	91.2	NA
4	551843	97	101	NA	0.156	0.092	NA	94.4	68.8	NA	185.2	161.2	NA	113.6	79.2	NA
5	668863	90	87	NA	0.263	0.158	NA	116	91.2	NA	204.8	172.8	NA	117.6	80.8	NA
6	708446	77	76	NA	0.166	0.094	NA	98.4	65.6	NA	182	155.2	NA	109.6	72	NA
7	702092	94	91	NA	0.14	0.082	NA	90.4	57.6	NA	168.8	140.4	NA	104.8	68.8	NA
8	698184	85	83	62	0.174	0.096	0.098	98	67.2	61.6	174.4	142	136.8	101.6	65.6	60
9	759974	82	84	63	0.168	0.112	0.094	92.8	72.8	63.2	177.6	148.8	153.6	114.4	88	79.2
10	746540	61	62	61	0.188	0.102	0.122	102.4	74.4	77.6	176.8	144	137.2	112	86.4	82
11	598557	96	98	64	0.216	0.134	0.129	104	76	68.8	182.4	154	148.8	115.2	85.6	91.6
12	789034	98	95	84	0.237	0.142	0.146	108.4	73.6	67.6	185.6	159.2	145.2	113.6	90.4	91.2
13	744068	82	82	78	0.196	0.097	0.095	96.4	72	68.4	174.8	150	153.6	110	96.8	95.6
14	790447	69	67	91	0.208	0.093	0.094	94.4	78	79.2	168.4	141.6	144.8	97.6	78	79.2
15	766149	86	88	63	0.221	0.122	0.116	106.4	79.2	86.4	189.2	162.4	150.8	114.8	93.6	91.2
16	812407	62	63	67	0.184	0.118	0.084	96	73.6	62	185.6	156	141.6	118.8	93.2	86
17	819398	89	73	75	0.152	0.115	0.126	110	76	66.8	194.8	155.6	158.4	123.6	73.6	72
18	858608	59	60	61	0.236	0.132	0.11	98.4	79.2	74.4	180	153.2	154.4	118	91.2	85.6
19	869601	65	61	71	0.189	0.118	0.107	89.6	61.2	54.4	170.4	125.6	124.8	121.2	105.2	99.2
20	848335	107	103	99	0.226	0.154	0.22	88.4	64.8	62	140.8	129.2	134	100	89.2	86.4
21	876380	77	85	92	0.149	0.123	0.109	114	104.4	97.2	191.6	169.6	152.4	134.4	121.6	115.6
22	529857	78	83	95	0.136	0.107	0.092	86.8	63.2	60.8	154	153.2	138	107.2	85.2	76.8
23	878754	75	64	85	0.149	0.129	0.165	121.2	100.8	88	166.4	160.4	150.8	129.2	107.6	94.4
24	878391	98	87	92	0.264	0.146	0.132	109.6	84	79.2	197.2	187.6	161.6	107.6	84	86
25	867179	81	81	62	0.166	0.109	0.09	104.8	78.8	68.8	184.4	178.8	170.8	118.8	110.8	100.8
26	563887	88	97	73	0.208	0.155	0.108	103.6	86.8	83.6	202	170	180	109.6	95.6	92
27	796561	79	83	74	0.222	0.139	0.116	91.6	78.8	62.8	198.4	152.4	137.2	122.4	96.8	70
28	819597	64	76	86	0.22	0.138	0.148	122	99.2	93.6	298.8	239.6	209.6	128	100.8	80.4
29	821111	95	102	68	0.183	0.057	0.055	86.4	73.2	72.4	173.2	141.2	129.6	97.2	58	49.2
30	802809	92	88	61	0.164	0.126	0.118	94	71.2	57.6	188	164.8	140.4	116	96	91.6
31	833493	81	77	58	0.155	0.112	0.101	90.4	66.4	80.4	185.2	163.2	192.4	119.6	102.4	87.2
32	849342	69	87	81	0.154	0.087	0.092	106	72.8	70.4	184	168.8	155.2	117.6	80.4	86.4
33	841123	76	120	94	0.159	0.119	0.11	94.8	67.2	64	182	130	125.6	104.4	103.2	96.8
34	835129	89	86	68	0.195	0.124	0.106	91.2	72.8	60.8	193.6	157.6	129.2	114.4	88.4	87.2
35	855203	94	79	75	0.273	0.09	0.096	100.4	94	91.6	218.8	178.8	157.6	97.2	72.8	77.6
36	856770	83	79	76	0.141	0.098	0.13	103.6	52.8	60	137.6	135.2	148.8	118	82	78
37	857034	80	81	86	0.157	0.12	0.094	88.8	68	60	164.4	136.8	140.8	112	91.6	81.2
38	849847	76	75	81	0.172	0.134	0.128	92.8	68.8	56.8	181.6	149.6	136.8	118.4	92.4	91.2
39	869177	101	83	66	0.223	0.093	0.118	99.6	83.2	68.4	150.8	136	160.4	108.8	100.8	97.6
40	857746	100	57	63	0.261	0.083	0.08	100.8	63.2	56	176.4	154	128.4	118	84.4	78.8
41	868788	77	75	107	0.221	0.101	0.129	101.6	77.2	69.2	228	154.8	134.4	150.4	112.8	125.6
42	852750	74	86	67	0.156	0.085	0.081	96.8	66.8	51.2	176.4	141.6	130.8	130	66.8	62
43	822679	91	110	77	0.241	0.141	0.136	88.4	70	64.8	188.8	143.6	138.8	122	52.8	58
44	873166	121	121	84	0.214	0.133	0.131	91.2	56	61.2	157.6	137.2	145.6	95.2	86	70.8
45	893767	107	104	98	0.144	0.07	0.094	94.8	59.6	64.8	138.8	96	96.8	104	73.6	66
46	895495	69	68	94	0.23	0.136	0.145	104	83.2	75.2	196.4	160.8	146	128	106	102
47	928889	78	75	67	0.214	0.198	0.188	55.2	33.2	42	157.2	151.2	132.8	96.8	84.8	81.2
48	871058	86	82	70	0.231	0.124	0.138	83.2	84.4	68.8	184.4	152.8	148.4	105.2	78.4	86
49	817878	99	94	61	0.196	0.116	0.119	93.2	65.6	62.8	188.8	166	158.8	120.8	98.4	95.2
50	883532	76	70	74	0.171	0.158	0.14	110.8	93.6	80	243.6	220.4	183.2	126.8	98	86.4
51	936059	88	102	73	0.242	0.261	0.256	110.4	108	88.4	159.2	162	169.6	95.2	95.6	99.2
52	925152	67	50	69	0.119	0.105	0.104	82	82.4	72.8	179.6	163.6	158.8	102.4	93.6	92
53	925505	141	128	NA	0.124	0.127	NA	76.8	78	NA	139.6	145.2	NA	54	59.2	NA
54	936263	80	79	NA	0.086	0.098	NA	76	79.2	NA	161.2	160.4	NA	78	73.6	NA

No.	No. RM	Aksis QRS (˚)			Interval QTc (ms)			Amplitudo R V1 (mv)			Tanda Crochetage (n)			Defektif T		
		Pra	< 24 jam	> 6 bulan	Pra	< 24 jam	> 6 bulan	Pra	< 24 jam	> 6 bulan	Pra	< 24 jam	> 6 bulan	Pra	< 24 jam	> 6 bulan
1	609571	155	138	NA	432	415	NA	1.253	0.743	NA	3	3	NA	(+)	(+)	NA
2	665105	138	126	NA	445	452	NA	1.178	0.714	NA	3	0	NA	(+)	(+)	NA
3	534907	145	127	NA	389	397	NA	1.509	0.977	NA	3	0	NA	(+)	(+)	NA
4	551843	117	100	NA	439	424	NA	0.845	0.564	NA	2	0	NA	(+)	(+)	NA
5	668863	105	98	NA	441	438	NA	0.766	0.779	NA	3	3	NA	(+)	(+)	NA
6	708446	98	84	NA	370	339	NA	0.665	0.515	NA	1	1	NA	(+)	(+)	NA
7	702092	92	83	NA	386	386	NA	0.487	0.496	NA	1	0	NA	(+)	(+)	NA
8	698184	101	88	83	390	381	354	0.724	0.475	0.124	0	2	2	(+)	(-)	(-)
9	759974	91	78	64	364	328	324	0.316	0.325	0.068	1	0	0	(+)	(-)	(-)
10	746540	99	75	62	358	364	349	0.288	0.217	0.035	2	1	0	(-)	(-)	(-)
11	598557	94	79	86	411	409	361	0.388	0.394	0.212	2	3	3	(-)	(-)	(-)
12	789034	88	80	64	382	380	350	0.563	0.584	0.188	1	0	0	(+)	(+)	(+)
13	744068	93	86	88	366	357	369	0.742	0.758	0.256	1	0	0	(+)	(+)	(+)
14	790447	84	75	62	312	321	343	0.397	0.251	0.025	0	0	0	(-)	(-)	(-)
15	766149	88	81	72	357	345	330	0.779	0.462	0.456	1	1	0	(+)	(-)	(-)
16	812407	136	121	102	389	375	406	0.947	0.634	0.641	3	0	0	(+)	(-)	(-)
17	819398	120	104	76	398	380	354	0.665	0.686	0.324	0	0	0	(-)	(-)	(-)
18	858608	132	116	98	361	376	380	1.078	0.739	0.298	3	0	0	(+)	(+)	(+)
19	869601	116	104	88	434	426	409	0.583	0.427	0.123	3	3	2	(+)	(+)	(+)
20	848335	175	162	92	399	401	408	1.028	1.042	0.454	3	3	2	(+)	(+)	(+)
21	876380	100	91	89	436	412	418	0.706	0.732	0.708	1	1	0	(-)	(-)	(-)
22	529857	127	90	66	377	371	428	0.681	0.503	0.514	1	0	0	(-)	(-)	(-)
23	878754	97	91	93	436	427	416	0.482	0.492	0.094	2	0	0	(-)	(+)	(+)
24	878391	126	121	121	383	408	348	0.765	0.887	0.778	0	0	0	(-)	(-)	(-)
25	867179	118	116	98	436	410	424	1.208	0.765	0.424	3	0	0	(+)	(+)	(-)
26	563887	126	114	110	403	412	371	1.667	1.485	0.819	0	0	0	(+)	(+)	(+)
27	796561	117	107	98	376	373	367	1.783	0.737	0.586	1	0	0	(-)	(+)	(+)
28	819597	95	59	46	487	419	466	0.345	0.345	0.043	0	0	0	(-)	(-)	(-)
29	821111	77	77	38	380	347	344	0.818	0.42	0.125	0	0	0	(-)	(-)	(-)
30	802809	104	94	84	431	436	363	0.675	0.372	0.102	3	2	2	(-)	(+)	(+)
31	833493	108	96	101	418	438	403	0.577	0.341	0.475	3	3	0	(-)	(-)	(-)
32	849342	101	101	103	380	400	422	0.839	0.683	0.587	1	0	0	(+)	(+)	(+)
33	841123	94	68	57	409	409	395	0.399	0.414	0.167	0	0	0	(-)	(+)	(+)
34	835129	109	97	80	429	443	355	0.732	0.388	0.154	3	2	1	(-)	(+)	(+)
35	855203	127	116	79	404	390	403	0.434	0.457	0.355	1	0	0	(-)	(-)	(-)
36	856770	105	99	91	428	409	319	0.54	0.596	0.261	0	0	0	(-)	(-)	(-)
37	857034	112	99	79	433	427	462	0.986	0.611	0.289	0	0	0	(-)	(-)	(-)
38	849847	115	104	68	444	451	449	0.859	0.597	0.544	0	0	0	(-)	(-)	(-)
39	869177	108	94	69	396	411	338	0.998	0.391	0.142	3	0	0	(+)	(+)	(-)
40	857746	110	102	78	381	461	427	1.447	0.381	0.288	0	0	0	(+)	(+)	(+)
41	868788	116	93	125	420	439	413	1.231	0.53	0.674	3	3	2	(+)	(-)	(+)
42	852750	102	99	91	369	418	364	0.66	0.393	0.309	0	0	0	(+)	(+)	(+)
43	822679	80	59	51	419	384	359	0.537	0.149	0.166	3	1	0	(-)	(-)	(-)
44	873166	131	131	100	431	428	371	0.772	0.798	0.577	0	0	0	(+)	(+)	(+)
45	893767	52	16	18	416	383	392	0.431	0.149	0.154	1	0	0	(+)	(+)	(+)
46	895495	110	96	111	392	366	444	0.703	0.492	0.466	0	0	0	(-)	(-)	(-)
47	928889	72	50	34	410	382	370	0.258	0.267	0.088	3	2	0	(+)	(+)	(+)
48	871058	107	96	74	375	341	353	0.445	0.275	0.265	3	2	1	(+)	(-)	(-)
49	817878	106	100	103	436	406	360	0.822	0.638	0.596	0	0	0	(-)	(-)	(-)
50	883532	138	122	118	394	353	402	0.389	0.399	0.218	2	1	0	(-)	(-)	(-)
51	936059	110	115	73	417	399	383	0.201	0.175	0.16	0	0	0	(-)	(-)	(-)
52	925152	100	104	74	432	436	437	0.596	0.476	0.468	3	3	3	(+)	(-)	(-)
53	925505	122	86	NA	394	380	NA	0.624	0.587	NA	2	3	NA	(-)	(+)	NA
54	936263	40	36	NA	409	367	NA	0.331	0.173	NA	3	2	NA	(-)	(-)	NA