

DAFTAR PUSTAKA

- Aktaran, Ş., Akarsu, E., Erbağcı, İ., Araz, M., Okumuş, S., Kartal, M., 2006. Comparison of intravenous methylprednisolone therapy vs. oral methylprednisolone therapy in patients with Graves' ophthalmopathy: IVGC vs. OGC in Graves' ophthalmopathy. *Int. J. Clin. Pract.* 61, 45–51. <https://doi.org/10.1111/j.1742-1241.2006.01004.x>
- Alam, M.S., Kamrul-Hasan, A.B.M., Kalam, S.T., Paul, A.K., Selim, S., 2019. Effect of Intravenous Methylprednisolone on the Signs & Symptoms of Graves' Ophthalmopathy. *Open J. Endocr. Metab. Dis.* 09, 95–101. <https://doi.org/10.4236/ojemd.2019.99010>
- Allahabadia, A., Daykin, J., Holder, R.L., Sheppard, M.C., Gough, S.C.L., Franklyn, J.A., 2000. Age and Gender Predict the Outcome of Treatment for Graves' Hyperthyroidism 85, 5.
- Antonelli, A., Ferrari, S.M., Corrado, A., Franceschini, S.S., Gelmini, S., Ferrannini, E., Fallahi, P., 2014. Extra-ocular muscle cells from patients with Graves' ophthalmopathy secrete α (CXCL10) and β (CCL2) chemokines under the influence of cytokines that are modulated by PPAR γ . *Autoimmun. Rev.* 13, 1160–1166. <https://doi.org/10.1016/j.autrev.2014.08.025>
- Bahn, R.S., 2010a. Graves' Ophthalmopathy. *N. Engl. J. Med.* 13.
- Bahn, R.S., 2010b. Graves' Ophthalmopathy. *N. Engl. J. Med.* 13.
- Barrio-Barrio, J., Sabater, A.L., Bonet-Farriol, E., Velázquez-Villoria, Á., Galofré, J.C., 2015a. Graves' Ophthalmopathy: VISA versus EUGOGO Classification, Assessment, and Management. *J. Ophthalmol.* 2015, 1–16. <https://doi.org/10.1155/2015/249125>
- Barrio-Barrio, J., Sabater, A.L., Bonet-Farriol, E., Velázquez-Villoria, Á., Galofré, J.C., 2015b. Graves' Ophthalmopathy: VISA versus EUGOGO Classification, Assessment, and Management. *J. Ophthalmol.* 2015, 1–16. <https://doi.org/10.1155/2015/249125>
- Bartalena, L., 1998. Cigarette Smoking and Treatment Outcomes in Graves Ophthalmopathy. *Ann. Intern. Med.* 129, 632. <https://doi.org/10.7326/0003-4819-129-8-199810150-00010>
- Bartalena, L., Baldeschi, L., Boboridis, K., Eckstein, A., Kahaly, G.J., Marcocci, C., Perros, P., Salvi, M., Wiersinga, W.M., on behalf of the European Group on Graves' Orbitopathy (EUGOGO), 2016. The 2016 European Thyroid Association/European Group on Graves' Orbitopathy Guidelines for the Management of Graves' Orbitopathy. *Eur. Thyroid J.* 5, 9–26. <https://doi.org/10.1159/000443828>
- Bartalena, L., Baldeschi, L., Dickinson, A., Eckstein, A., Kendall-Taylor, P., Marcocci, C., Mourits, M., Perros, P., Boboridis, K., Boschi, A., Currò, N., Daumerie, C., Kahaly, G.J., Krassas, G.E., Lane, C.M., Lazarus, J.H., Marinò, M., Nardi, M., Neoh, C., Orgiazzi, J., Pearce, S., Pinchera, A., Pitz, S., Salvi, M., Sivelli, P., Stahl, M., von Arx, G., Wiersinga, W.M., 2008. Consensus statement of the European Group on Graves' orbitopathy (EUGOGO) on management of GO. *Eur. J. Endocrinol.* 158, 273–285. <https://doi.org/10.1530/EJE-07-0666>
- Bartalena, L., Kahaly, G.J., Baldeschi, L., Dayan, C.M., Eckstein, A., Marcocci, C., Marinò, M., Vaidya, B., Wiersinga, W.M.,____,____, Ayvaz, G., Konuk, O., Ciric, J., Beleslin, B., Boschi, A., Cristina Burlacu, M., Morris, D., Le Moli, R., Marino, A., McKee, J., Zammit, N., Führer, D., Pereni, I., Schittkowski, M., Raddatz, D., Lee, V., Meeran, K., Abeillon, J., Soui Thcong, T., Ponto, K., Muller, I., Currò, N., Hintschich, C., Gärtner, R., Pearce, S., Clarke, L.,

- Brix, T., Bechtold, D., Rudovfsky, G., Fichter, N., Du Pasquier, L., Meney, J., Menconi, F., Lanzolla, G., Sundar, G., Peiling Yung, S., Boboridis, K., Anagnostis, P., Pérez Lopez, M., Javier Sanchez, C., Laura Tanda, M., Donati, S., Papp, A., Li, S., Jablonska, A., Miskiewicz, P., Juri Mandic, J., Baretic, M., 2021. The 2021 European Group on Graves' orbitopathy (EUGOGO) clinical practice guidelines for the medical management of Graves' orbitopathy. *Eur. J. Endocrinol.* 185, G43–G67. <https://doi.org/10.1530/EJE-21-0479>
- Bartalena, L., Krassas, G.E., Wiersinga, W., Marcocci, C., Salvi, M., Daumerie, C., Bournaud, C., Stahl, M., Sassi, L., Veronesi, G., Azzolini, C., Boboridis, K.G., Mourits, M.P., Soeters, M.R., Baldeschi, L., Nardi, M., Currò, N., Boschi, A., Bernard, M., von Arx, G., for the European Group on Graves' Orbitopathy, 2012a. Efficacy and Safety of Three Different Cumulative Doses of Intravenous Methylprednisolone for Moderate to Severe and Active Graves' Orbitopathy. *J. Clin. Endocrinol. Metab.* 97, 4454–4463. <https://doi.org/10.1210/jc.2012-2389>
- Bartalena, L., Krassas, G.E., Wiersinga, W., Marcocci, C., Salvi, M., Daumerie, C., Bournaud, C., Stahl, M., Sassi, L., Veronesi, G., Azzolini, C., Boboridis, K.G., Mourits, M.P., Soeters, M.R., Baldeschi, L., Nardi, M., Currò, N., Boschi, A., Bernard, M., von Arx, G., for the European Group on Graves' Orbitopathy, 2012b. Efficacy and Safety of Three Different Cumulative Doses of Intravenous Methylprednisolone for Moderate to Severe and Active Graves' Orbitopathy. *J. Clin. Endocrinol. Metab.* 97, 4454–4463. <https://doi.org/10.1210/jc.2012-2389>
- Bartalena, L., Krassas, G.E., Wiersinga, W., Marcocci, C., Salvi, M., Daumerie, C., Bournaud, C., Stahl, M., Sassi, L., Veronesi, G., Azzolini, C., Boboridis, K.G., Mourits, M.P., Soeters, M.R., Baldeschi, L., Nardi, M., Currò, N., Boschi, A., Bernard, M., von Arx, G., for the European Group on Graves' Orbitopathy, 2012c. Efficacy and Safety of Three Different Cumulative Doses of Intravenous Methylprednisolone for Moderate to Severe and Active Graves' Orbitopathy. *J. Clin. Endocrinol. Metab.* 97, 4454–4463. <https://doi.org/10.1210/jc.2012-2389>
- Bartalena, L., Piantanida, E., Gallo, D., Lai, A., Tanda, M.L., 2020. Epidemiology, Natural History, Risk Factors, and Prevention of Graves' Orbitopathy. *Front. Endocrinol.* 11, 615993. <https://doi.org/10.3389/fendo.2020.615993>
- Bartalena, L., Pinchera, A., Marcocci, C., 2000. Management of Graves' Ophthalmopathy: Reality and Perspectives 21, 32.
- Bartley, G.B., Fatourech, V., Kadrmas, E.F., Jacobsen, S.J., Ilstrup, D.M., Garrity, J.A., Gorman, C.A., 1996. Clinical Features of Graves' Ophthalmopathy in an Incidence Cohort. *Am. J. Ophthalmol.* 121, 284–290. [https://doi.org/10.1016/S0002-9394\(14\)70276-4](https://doi.org/10.1016/S0002-9394(14)70276-4)
- Ben Simon, G.J., Katz, G., Zloto, O., Leiba, H., Hadas, B., Huna-Baron, R., 2015. Age differences in clinical manifestation and prognosis of thyroid eye disease. *Graefes Arch. Clin. Exp. Ophthalmol.* 253, 2301–2308. <https://doi.org/10.1007/s00417-015-3156-2>
- Ben Simon, G.J., Syed, H.M., Douglas, R., McCann, J.D., Goldberg, R.A., 2004. Extraocular muscle enlargement with tendon involvement in thyroid-associated orbitopathy. *Am. J. Ophthalmol.* 137, 1145–1147. <https://doi.org/10.1016/j.ajo.2004.01.033>
- Bijlsma, W.R., Mourits, M.Ph., 2006. Radiologic Measurement of Extraocular Muscle Volumes in Patients with Graves' Orbitopathy: A Review and Guideline. *Orbit* 25, 83–91. <https://doi.org/10.1080/01676830600675319>

- Campi, I., Vannucchi, G., Salvi, M., 2016a. THERAPY OF ENDOCRINE DISEASE: Endocrine dilemma: management of Graves' orbitopathy. *Eur. J. Endocrinol.* 175, R117–R133. <https://doi.org/10.1530/EJE-15-1164>
- Campi, I., Vannucchi, G., Salvi, M., 2016b. THERAPY OF ENDOCRINE DISEASE: Endocrine dilemma: management of Graves' orbitopathy. *Eur. J. Endocrinol.* 175, R117–R133. <https://doi.org/10.1530/EJE-15-1164>
- Carballo, M.C.S., de Sá, B.P.C., Rocha, D.R.T.W., Arbex, A.K., 2017a. Pathophysiology of Graves' Ophthalmopathy: A Literature Review. *Open J. Endocr. Metab. Dis.* 07, 77–87. <https://doi.org/10.4236/ojemd.2017.71008>
- Carballo, M.C.S., de Sá, B.P.C., Rocha, D.R.T.W., Arbex, A.K., 2017b. Pathophysiology of Graves' Ophthalmopathy: A Literature Review. *Open J. Endocr. Metab. Dis.* 07, 77–87. <https://doi.org/10.4236/ojemd.2017.71008>
- Chong, K.K.L., 2000. Thyroid Eye Disease: a Comprehensive REview. *Med. Bul. Clinical Activity Score in Graves' Ophthalmopathy, Scoring Guide*, n.d.
- Cooper, D.S., 2003. Antithyroid Drugs in the Management of Patients with Graves' Disease: An Evidence-Based Approach to Therapeutic Controversies. *J. Clin. Endocrinol. Metab.* 88, 3474–3481. <https://doi.org/10.1210/jc.2003-030185>
- Daubner, D., Spieth, S., Engelland, K., von Kummer, R., 2012. Diagnose und Differenzialdiagnose der endokrinen Orbitopathie in der MRT. *Radiol.* 52, 550–559. <https://doi.org/10.1007/s00117-012-2330-3>
- David R. Jourdan, Louise Mawan, Richard L Anderson, 2012. *Surgical Anatomy of The Ocular Adnexa, A clinical Approach*, Second edition. ed. Oxford University Press in cooperation with the American Academy of Ophthalmology.
- Dickinson, A.J., Perros, P., 2001. Controversies in the clinical evaluation of active thyroid-associated orbitopathy: use of a detailed protocol with comparative photographs for objective assessment: Clinical evaluation of TAO. *Clin. Endocrinol. (Oxf.)* 55, 283–303. <https://doi.org/10.1046/j.1365-2265.2001.01349.x>
- Dik, W.A., Virakul, S., van Steensel, L., 2016. Current perspectives on the role of orbital fibroblasts in the pathogenesis of Graves' ophthalmopathy. *Exp. Eye Res.* 142, 83–91. <https://doi.org/10.1016/j.exer.2015.02.007>
- Douglas, R.S., Afifiyan, N.F., Hwang, C.J., Chong, K., Haider, U., Richards, P., Gianoukakis, A.G., Smith, T.J., 2010. Increased Generation of Fibrocytes in Thyroid-Associated Ophthalmopathy. *J. Clin. Endocrinol. Metab.* 95, 430–438. <https://doi.org/10.1210/jc.2009-1614>
- Douglas, R.S., Kahaly, G.J., Patel, A., Sile, S., Thompson, E.H.Z., Perdok, R., Fleming, J.C., Fowler, B.T., Marcocci, C., Marinò, M., Antonelli, A., Dailey, R., Harris, G.J., Eckstein, A., Schiffman, J., Tang, R., Nelson, C., Salvi, M., Wester, S., Sherman, J.W., Vescio, T., Holt, R.J., Smith, T.J., 2020. Teprotumumab for the Treatment of Active Thyroid Eye Disease. *N. Engl. J. Med.* 382, 341–352. <https://doi.org/10.1056/NEJMoa1910434>
- Eckstein, A., 2003. Impact of smoking on the response to treatment of thyroid associated ophthalmopathy. *Br. J. Ophthalmol.* 87, 773–776. <https://doi.org/10.1136/bjo.87.6.773>
- Eckstein, A.K., Plicht, M., Lax, H., Hirche, H., Quadbeck, B., Mann, K., Steuhl, K.P., Esser, J., Morgenthaler, N.G., 2004. Clinical results of anti-inflammatory therapy in Graves' ophthalmopathy and association with thyroidal autoantibodies*. *Clin. Endocrinol. (Oxf.)* 61, 612–618. <https://doi.org/10.1111/j.1365-2265.2004.02143.x>
- Erdurmus, M., Celebi, S., Ozmen, S., Bucak, Y.Y., 2011. Isolated lateral rectus muscle involvement as a presenting sign of euthyroid Graves disease. *J.*

- Am. Assoc. Pediatr. Ophthalmol. Strabismus 15, 395–397. <https://doi.org/10.1016/j.jaapos.2011.04.003>
- Estcourt, S., Hickey, J., Perros, P., Dayan, C., Vaidya, B., 2009. The patient experience of services for thyroid eye disease in the United Kingdom: results of a nationwide survey. *Eur. J. Endocrinol.* 161, 483–487. <https://doi.org/10.1530/EJE-09-0383>
- Garrity, J.A., Bahn, R.S., 2006. Pathogenesis of Graves Ophthalmopathy: Implications for Prediction, Prevention, and Treatment. *Am. J. Ophthalmol.* 142, 147-153.e2. <https://doi.org/10.1016/j.ajo.2006.02.047>
- Gerding, M.N., van der Meer, J.W.C., Broenink, M., Bakker, O., Wiersinga, W.M., Prummel, M.F., 2000. Association of thyrotrophin receptor antibodies with the clinical features of Graves' ophthalmopathy: TSH receptor antibodies and Graves' ophthalmopathy. *Clin. Endocrinol. (Oxf.)* 52, 267–271. <https://doi.org/10.1046/j.1365-2265.2000.00959.x>
- Gontarz-Nowak, K., Szychlińska, M., Matuszewski, W., Stefanowicz-Rutkowska, M., Bandurska-Stankiewicz, E., 2020. Current Knowledge on Graves' Orbitopathy. *J. Clin. Med.* 10, 16. <https://doi.org/10.3390/jcm10010016>
- Han, R., Smith, T.J., 2006. T Helper Type 1 and Type 2 Cytokines Exert Divergent Influence on the Induction of Prostaglandin E2 and Hyaluronan Synthesis by Interleukin-1 β in Orbital Fibroblasts: Implications for the Pathogenesis of Thyroid-Associated Ophthalmopathy. *Endocrinology* 147, 13–19. <https://doi.org/10.1210/en.2005-1018>
- Häner, N.U., Dysli, M., Abegg, M., Zinkernagel, M.S., 2015. Enhanced-depth optical coherence tomography for imaging horizontal rectus muscles in Graves' orbitopathy. *Graefes Arch. Clin. Exp. Ophthalmol.* 253, 1569–1573. <https://doi.org/10.1007/s00417-015-3060-9>
- He, Y., Mu, K., Liu, R., Zhang, J., Xiang, N., 2017. Comparison of two different regimens of intravenous methylprednisolone for patients with moderate to severe and active Graves' ophthalmopathy: a prospective, randomized controlled trial. *Endocr. J.* 64, 141–149. <https://doi.org/10.1507/endocrj.EJ16-0083>
- Higashiyama, T., Nishida, Y., Morino, K., Ugi, S., Nishio, Y., Maegawa, H., Ohji, M., 2015. Use of MRI signal intensity of extraocular muscles to evaluate methylprednisolone pulse therapy in thyroid-associated ophthalmopathy. *Jpn. J. Ophthalmol.* 59, 124–130. <https://doi.org/10.1007/s10384-014-0365-x>
- Higashiyama, T., Nishida, Y., Ohji, M., 2016. Relationship between magnetic resonance imaging signal intensity and volume of extraocular muscles in thyroid-associated ophthalmopathy with methylprednisolone pulse therapy. *Clin. Ophthalmol.* 721. <https://doi.org/10.2147/OPHTH.S105096>
- Hinomatsu, Yuj., Tanaka, Kiy., n.d. Pulse Therapy for Graves' 10.
- Hou, K., Ai, T., Hu, W., Luo, B., Wu, Y., Liu, R., 2017. Three dimensional orbital magnetic resonance T2-mapping in the evaluation of patients with Graves' ophthalmopathy. *Curr. Med. Sci.* 37, 938–942. <https://doi.org/10.1007/s11596-017-1831-8>
- Huang, Y., Fang, S., Li, D., Zhou, H., Li, B., Fan, X., 2019a. The involvement of T cell pathogenesis in thyroid-associated ophthalmopathy. *Eye* 33, 176–182. <https://doi.org/10.1038/s41433-018-0279-9>
- Huang, Y., Fang, S., Li, D., Zhou, H., Li, B., Fan, X., 2019b. The involvement of T cell pathogenesis in thyroid-associated ophthalmopathy. *Eye* 33, 176–182. <https://doi.org/10.1038/s41433-018-0279-9>
- Jain, A.P., Gellada, N., Ugradar, S., Kumar, A., Kahaly, G., Douglas, R., 2022. Teprotumumab reduces extraocular muscle and orbital fat volume in

- thyroid eye disease. *Br. J. Ophthalmol.* 106, 165–171. <https://doi.org/10.1136/bjophthalmol-2020-317806>
- Kauppinen-Mäkelin, R., Karma, A., Leinonen, E., Löyttyniemi, E., Salonen, O., Sane, T., Setälä, K., Viikari, J., Heufelder, A., Välimäki, M., 2002. High dose intravenous methylprednisolone pulse therapy versus oral prednisone for thyroid-associated ophthalmopathy: ACTA OPHTHALMOLOGICA SCANDINAVICA 2002. *Acta Ophthalmol. Scand.* 80, 316–321. <https://doi.org/10.1034/j.1600-0420.2002.800316.x>
- Khong, J.J., Finch, S., De Silva, C., Rylander, S., Craig, J.E., Selva, D., Ebeling, P.R., 2016. Risk Factors for Graves' Orbitopathy; the Australian Thyroid-Associated Orbitopathy Research (ATOR) Study. *J. Clin. Endocrinol. Metab.* 101, 2711–2720. <https://doi.org/10.1210/jc.2015-4294>
- Kubota, S., Ohye, H., Nishihara, E., Kudo, T., Ito, M., Fukata, S., Amino, N., Kuma, K., Miyauchi, A., 2005. Effect of High Dose Methylprednisolone Pulse Therapy Followed by Oral Prednisolone Administration on the Production of Anti-TSH Receptor Antibodies and Clinical Outcome in Graves' Disease. *Endocr. J.* 52, 735–741. <https://doi.org/10.1507/endocrj.52.735>
- Kullberg, J., Brandberg, J., Angelhed, J.-E., Frimmel, H., Bergelin, E., Strid, L., Ahlström, H., Johansson, L., Lönn, L., 2009. Whole-body adipose tissue analysis: comparison of MRI, CT and dual energy X-ray absorptiometry. *Br. J. Radiol.* 82, 123–130. <https://doi.org/10.1259/bjr/80083156>
- Lehmann, G.M., Feldon, S.E., Smith, T.J., Phipps, R.P., 2008. Immune Mechanisms in Thyroid Eye Disease. *Thyroid* 18, 959–965. <https://doi.org/10.1089/thy.2007.0407>
- Lendorf, M.E., Rasmussen, Å.K., Fledelius, H.C., Feldt-Rasmussen, U., 2009. Cardiovascular and Cerebrovascular Events in Temporal Relationship to Intravenous Glucocorticoid Pulse Therapy in Patients with Severe Endocrine Ophthalmopathy. *Thyroid* 19, 1431–1432. <https://doi.org/10.1089/thy.2009.0069>
- Li, Q., Ye, H., Ding, Y., Chen, G., Liu, Z., Xu, J., Chen, R., Yang, H., 2017. Clinical characteristics of moderate-to-severe thyroid associated ophthalmopathy in 354 Chinese cases. *PLOS ONE* 12, e0176064. <https://doi.org/10.1371/journal.pone.0176064>
- Lim, S.L., Lim, A.K.E., Mumtaz, M., Hussein, E., Wan Bebakar, W.M., Khir, A.S., 2008. Prevalence, Risk Factors, and Clinical Features of Thyroid-Associated Ophthalmopathy in Multiethnic Malaysian Patients with Graves' Disease. *Thyroid* 18, 1297–1301. <https://doi.org/10.1089/thy.2008.0044>
- Lin, M.-C., Hsu, F.-M., Bee, Y.-S., Ger, L.-P., 2008. Age Influences the Severity of Graves' Ophthalmopathy 24, 6.
- Manji, N., Carr-Smith, J.D., Boelaert, K., Allahabadia, A., Armitage, M., Chatterjee, V.K., Lazarus, J.H., Pearce, S.H.S., Vaidya, B., Gough, S.C., Franklyn, J.A., 2006. Influences of Age, Gender, Smoking, and Family History on Autoimmune Thyroid Disease Phenotype. *J. Clin. Endocrinol. Metab.* 91, 4873–4880. <https://doi.org/10.1210/jc.2006-1402>
- Marcocci, C., Marinò, M., 2012. Treatment of mild, moderate-to-severe and very severe Graves' orbitopathy. *Best Pract. Res. Clin. Endocrinol. Metab.* 26, 325–337. <https://doi.org/10.1016/j.beem.2011.11.005>
- Marinò, M., Morabito, E., Brunetto, M.R., Bartalena, L., Pinchera, A., Marocci, C., 2004. Acute and Severe Liver Damage Associated with Intravenous Glucocorticoid Pulse Therapy in Patients with Graves' Ophthalmopathy. *Thyroid* 14, 403–406. <https://doi.org/10.1089/105072504774193276>
- McKeag, D., Lane, C., Lazarus, J.H., Baldeschi, L., Boboridis, K., Dickinson, A.J., Hullo, A.I., Kahaly, G., Krassas, G., Marcocci, C., Marino, M., Mourits, M.P.,

- Nardi, M., Neoh, C., Orgiazzi, J., Perros, P., Pinchera, A., Pitz, S., Prummel, M.F., Sartini, M.S., Wiersinga, W.M., 2007a. Clinical features of dysthyroid optic neuropathy: a European Group on Graves' Orbitopathy (EUGOGO) survey. *Br. J. Ophthalmol.* 91, 455–458. <https://doi.org/10.1136/bjo.2006.094607>
- McKeag, D., Lane, C., Lazarus, J.H., Baldeschi, L., Boboridis, K., Dickinson, A.J., Hullo, A.I., Kahaly, G., Krassas, G., Marcocci, C., Marino, M., Mourits, M.P., Nardi, M., Neoh, C., Orgiazzi, J., Perros, P., Pinchera, A., Pitz, S., Prummel, M.F., Sartini, M.S., Wiersinga, W.M., 2007b. Clinical features of dysthyroid optic neuropathy: a European Group on Graves' Orbitopathy (EUGOGO) survey. *Br. J. Ophthalmol.* 91, 455–458. <https://doi.org/10.1136/bjo.2006.094607>
- Menconi, F., Profilo, M.A., Leo, M., Sisti, E., Altea, M.A., Rocchi, R., Latrofa, F., Nardi, M., Vitti, P., Marcocci, C., Marinò, M., 2014. Spontaneous Improvement of Untreated Mild Graves' Ophthalmopathy: Rundle's Curve Revisited. *Thyroid* 24, 60–66. <https://doi.org/10.1089/thy.2013.0240>
- Minich, W.B., Dehina, N., Welsink, T., Schwiebert, C., Morgenthaler, N.G., Köhrle, J., Eckstein, A., Schomburg, L., 2013. Autoantibodies to the IGF1 Receptor in Graves' Orbitopathy. *J. Clin. Endocrinol. Metab.* 98, 752–760. <https://doi.org/10.1210/jc.2012-1771>
- Mourits, M.P.H., Koornneef, L., Wiersinga, W., Prummel, M.F., Berghout, A., GAAG, R.V.D., 1989. Clinical criteria for the assessment of disease activity in Graves' ophthalmopathy: a novel approach. *Br. J. Ophthalmol.*
- Mourits, M.P., Koornneef, L., Wiersinga, W.M., Prummel, M.F., Berghout, A., van der Gaag, R., 1989. Clinical criteria for the assessment of disease activity in Graves' ophthalmopathy: a novel approach. *Br. J. Ophthalmol.* 73, 639–644. <https://doi.org/10.1136/bjo.73.8.639>
- Mourits, M.Ph., Prummel, M.F., Wiersinga, W.M., Koornneef, L., 1997. Clinical activity score as a guide in the management of patients with Graves' ophthalmopathy. *Clin. Endocrinol. (Oxf.)* 47, 9–14. <https://doi.org/10.1046/j.1365-2265.1997.2331047.x>
- Müller-Forell, W., 2012. Neuroimaging of Graves' orbitopathy. *Best Pract.* 13.
- Muñoz-Ortiz, J., Sierra-Cote, M.C., Zapata-Bravo, E., Valenzuela-Vallejo, L., Marin-Noriega, M.A., Uribe-Reina, P., Terreros-Dorado, J.P., Gómez-Suarez, M., Arteaga-Rivera, K., de-la-Torre, A., 2020. Prevalence of hyperthyroidism, hypothyroidism, and euthyroidism in thyroid eye disease: a systematic review of the literature. *Syst. Rev.* 9, 201. <https://doi.org/10.1186/s13643-020-01459-7>
- Nagy, E., Toth, J., Kaldi, I., Damjanovich, J., Mezosi, E., Lenkey, A., Toth, L., Szabo, J., Karanyi, Z., Leovey, A., 2000. Graves' ophthalmopathy: eye muscle involvement in patients with diplopia. *Eur. J. Endocrinol.* 142, 591–597. <https://doi.org/10.1530/eje.0.1420591>
- Ngo, S.T., Steyn, F.J., McCombe, P.A., 2014. Gender differences in autoimmune disease. *Front. Neuroendocrinol.* 35, 347–369. <https://doi.org/10.1016/j.yfrne.2014.04.004>
- Nicola, C., Danila, C., Guia, V., Irene, C., Giacinta, P., Simona, S., Davide, D., Claudio, G., Lorenzo, P., Paolo, B.-P., Roberto, R., Mario, S., n.d. Therapeutic Outcomes of High-Dose Intravenous Steroids in the Treatment of Dysthyroid Optic Neuropathy 9.
- Noth, D., Gebauer, M., Müller, B., Bürgi, U., Diem, P., n.d. Graves' ophthalmopathy: natural history and treatment outcomes. *SWISS MED WKLY* 9.

- Nyström, E., Berg, G.E.B., Jansson, S.K.G., Tørring, O., Valdemarsson, S.V., 2011. *Thyroid Disease in Adults*. Springer Berlin Heidelberg, Berlin, Heidelberg.
- Oculofacial Plastic and Orbital Surgery, n.d. , in: *American Academy of Ophthalmology*, 2020-2021.
- Oculofacial Plastic and Orbital Surgery, 2019th-2020 Basic and Clinical Science Course ed, 2019. . *American Academy of Ophthalmology*.
- Paavonen, T., 1994. Hormonal Regulation of Immune Responses. *Ann. Med.* 26, 255–258. <https://doi.org/10.3109/07853899409147900>
- Patel, P., Khandji, J., Kazim, M., 2015. Recurrent Thyroid Eye Disease: *Ophthalm. Plast. Reconstr. Surg.* 31, 445–448. <https://doi.org/10.1097/IOP.0000000000000371>
- Perez-Moreiras, J.V., Gomez-Reino, J.J., Maneiro, J.R., Perez-Pampin, E., Romo Lopez, A., Rodríguez Alvarez, F.M., Castillo Laguarda, J.M., del Estad Cabello, A., Gessa Sorroche, M., España Gregori, E., Sales-Sanz, M., Gomez-Reino, J.J., Maneiro, J., Tome Martinez de Rituerto, M.A., Pampin, E.P., Perez-Moreiras, J.V., Alvarez, A., Lopez, A.R., Troyano, J., Niño, C., Vico, E., Montañez Zorrilla, M.C., Sanz, M.S., Martín Ucerro, A.M., Revenga, M., Gregori, E.E., Pérez Lazaro, A.M., Todoli, J.A., Gonzalez Alejos, A.M., Rodríguez Alvarez, F.M., Díaz, César, Cubero Marcos, J.M., Castillo Laguarda, J.M., Polo, A.D., Lavilla, L., Ginés, C.P., Cabello, A. del E., Gómez Escobar, A.J., Díaz, Concepción, Sarabia, F.N., Hernández, T.M., Sorroche, M.G., Navarro, E., Rubio, E., Blandón, R.V., Maiquez, M.P., 2018. Efficacy of Tocilizumab in Patients With Moderate-to-Severe Corticosteroid-Resistant Graves Orbitopathy: A Randomized Clinical Trial. *Am. J. Ophthalmol.* 195, 181–190. <https://doi.org/10.1016/j.ajo.2018.07.038>
- Perros, P., Cromble, A.L., Kendall-Taylor, P., 1995. Natural history of thyroid associated ophthalmopathy. *Clin. Endocrinol. (Oxf.)* 42, 45–50. <https://doi.org/10.1111/j.1365-2265.1995.tb02597.x>
- Perros, P., Žarković, M., Azzolini, C., Ayvaz, G., Baldeschi, L., Bartalena, L., Boschi, A., Bournaud, C., Brix, T.H., Covelli, D., Ćirić, S., Daumerie, C., Eckstein, A., Fichter, N., Führer, D., Hegedüs, L., Kahaly, G.J., Konuk, O., Lareida, J., Lazarus, J., Leo, M., Mathiopoulou, L., Menconi, F., Morris, D., Okosieme, O., Orgiazzi, J., Pitz, S., Salvi, M., Vardanian-Vartin, C., Wiersinga, W., Bernard, M., Clarke, L., Currò, N., Dayan, C., Dickinson, J., Knežević, M., Lane, C., Marcocci, C., Marinò, M., Möller, L., Nardi, M., Neoh, C., Pearce, S., von Arx, G., Törüner, F.B., 2015. PREGO (presentation of Graves' orbitopathy) study: changes in referral patterns to European Group On Graves' Orbitopathy (EUGOGO) centres over the period from 2000 to 2012. *Br. J. Ophthalmol.* 99, 1531–1535. <https://doi.org/10.1136/bjophthalmol-2015-306733>
- Philip, R., Saran, S., Gutch, M., Agroyia, P., Tyagi, R., Gupta, K., 2013. Pulse dexamethasone therapy versus pulse methylprednisolone therapy for treatment of Graves's ophthalmopathy. *Indian J. Endocrinol. Metab.* 17, 157. <https://doi.org/10.4103/2230-8210.119556>
- Politi, L.S., Godi, C., Cammarata, G., Ambrosi, A., Iadanza, A., Lanzi, R., Falini, A., Bianchi Marzoli, S., 2014. Magnetic resonance imaging with diffusion-weighted imaging in the evaluation of thyroid-associated orbitopathy: getting below the tip of the iceberg. *Eur. Radiol.* 24, 1118–1126. <https://doi.org/10.1007/s00330-014-3103-3>

- Ramos-Leví, A.M., Marazuela, M., 2016. Pathogenesis of thyroid autoimmune disease: the role of cellular mechanisms. *Endocrinol. Nutr. Engl. Ed.* 63, 421–429. <https://doi.org/10.1016/j.endoen.2016.09.005>
- Regensburg, N.I., Wiersinga, W.M., Berendschot, T.T.J.M., Saeed, P., Mourits, M.P., 2011. Densities of Orbital Fat and Extraocular Muscles in Graves Orbitopathy Patients and Controls. *Ophthal. Plast. Reconstr. Surg.* 27, 236–240. <https://doi.org/10.1097/IOP.0b013e31820365d5>
- Reilkoff, R.A., Bucala, R., Herzog, E.L., 2011. Fibrocytes: emerging effector cells in chronic inflammation. *Nat. Rev. Immunol.* 11, 427–435. <https://doi.org/10.1038/nri2990>
- Rothfus, W.E., Curtin, H.D., 1984. Extraocular Muscle Enlargement: A CT Review *Radiology* 1984; 151: 677-681.
- Rundle FF, Wilson CW., n.d. Development and course of exophthalmos and ophthalmoplegia in Graves' disease with special reference to the effect of thyroidectomy. *Clin. Sci.* 1954 5 177–194.
- Selva, D., Chen, C., King, G., 2004. Late reactivation of thyroid orbitopathy. *Clin. Experiment. Ophthalmol.* 32, 46–50. <https://doi.org/10.1046/j.1442-9071.2004.00756.x>
- Shen, S., Fong, K.S., Wong, H.B., Looi, A., Chan, L.L., Rootman, J., Seah, L.L., 2010. Normative Measurements of the Chinese Extraocular Musculature by High-Field Magnetic Resonance Imaging 51, 6.
- Siakallis, L.C., Miszkiel, K.A., 2018. Imaging Investigation of Thyroid Eye Disease. *Ophthal Plast Reconstr Surg* 11.
- Smith, T.J., Bahn, R.S., Gorman, C.A., 1989a. Connective Tissue, Glycosaminoglycans, and Diseases the Thyroid*. *Endocr. Rev.* 10, 366–391. <https://doi.org/10.1210/edrv-10-3-366>
- Smith, T.J., Bahn, R.S., Gorman, C.A., 1989b. Hormonal Regulation of Hyaluronate Synthesis in Cultured Human Fibroblasts: Evidence for Differences between Retroocular and Dermal Fibroblasts. *J. Clin. Endocrinol. Metab.* 69, 1019–1023. <https://doi.org/10.1210/jcem-69-5-1019>
- Smith, T.J., Kahaly, G.J., Ezra, D.G., Fleming, J.C., Dailey, R.A., Tang, R.A., Harris, G.J., Antonelli, A., Salvi, M., Goldberg, R.A., Gigantelli, J.W., Couch, S.M., Shriver, E.M., Hayek, B.R., Hink, E.M., Woodward, R.M., Gabriel, K., Magni, G., Douglas, R.S., 2017. Teprotumumab for Thyroid-Associated Ophthalmopathy. *N. Engl. J. Med.* 376, 1748–1761. <https://doi.org/10.1056/NEJMoa1614949>
- Subekti, I., Soewondo, P., Soebardi, S., Darmowidjojo, B., Harbuwono, D.S., Purnamasari, D., Tarigan, T.J.E., Wisnu, W., Tahapary, D.L., Kurniawan, F., Sidik, M., Nusanti, S., Dewiputri, S., Suharko, H., Suardana, G.G., Suroyo, I., Wulani, V., Siswoyo, A.D., Gondhowiardjo, S., Kodrat, H., 2019. Practical Guidelines Management of Graves Ophthalmopathy. *Acta Med Indones* 51, 8.
- Suda, T., Chida, K., Matsuda, H., Hashizume, H., Ide, K., Yokomura, K., Suzuki, K., Kuwata, H., Miwa, S., Nakano, H., Fujisawa, T., Enomoto, N., Matsushita, A., Nakamura, H., 2003. High-dose intravenous glucocorticoid therapy abrogates circulating dendritic cells. *J. Allergy Clin. Immunol.* 112, 1237–1239. <https://doi.org/10.1016/j.jaci.2003.09.028>
- Tachibana, S., Murakami, T., Noguchi, H., Noguchi, Y., Nakashima, A., Ohyabu, Y., Noguchi, S., 2010. Orbital magnetic resonance imaging combined with clinical activity score can improve the sensitivity of detection of disease activity and prediction of response to immunosuppressive therapy for Graves' ophthalmopathy. *Endocr. J.* 57, 853–861. <https://doi.org/10.1507/endocrj.K10E-156>

- Tanda, M.L., Piantanida, E., Liparulo, L., Veronesi, G., Lai, A., Sassi, L., Pariani, N., Gallo, D., Azzolini, C., Ferrario, M., Bartalena, L., 2013. Prevalence and Natural History of Graves' Orbitopathy in a Large Series of Patients With Newly Diagnosed Graves' Hyperthyroidism Seen at a Single Center. *J. Clin. Endocrinol. Metab.* 98, 1443–1449. <https://doi.org/10.1210/jc.2012-3873>
- Terwee, C.B., Prummel, M.F., Gerding, M.N., Kahaly, G.J., Dekker, F.W., Wiersinga, W.M., 2005. Measuring disease activity to predict therapeutic outcome in Graves' ophthalmopathy. *Clin. Endocrinol. (Oxf.)* 62, 145–155. <https://doi.org/10.1111/j.1365-2265.2005.02186.x>
- Tian, S., Nishida, Y., Isberg, B., Lennerstrand, G., 2000. MRI measurements of normal extraocular muscles and other orbital structures. *Graefes Arch. Clin. Exp. Ophthalmol.* 238, 393–404. <https://doi.org/10.1007/s004170050370>
- Torsten B Moeller, emil Reif, 2000. *Normal Findings in CT and MRI*. Thieme, New York.
- Tramunt, B., Imbert, P., Grunenwald, S., Boutault, F., Caron, P., 2019. Sight-threatening Graves' orbitopathy: Twenty years' experience of a multidisciplinary thyroid-eye outpatient clinic. *Clin. Endocrinol. (Oxf.)* 90, 208–213. <https://doi.org/10.1111/cen.13880>
- van der Pol, C.B., Chakraborty, S., Gao, J., Nguyen, T., Torres, C., Glikstein, R., 2014. Imaging Anatomy and Pathology of Extraocular Muscles in Adults. *Can. Assoc. Radiol. J.* 65, 366–371. <https://doi.org/10.1016/j.carj.2014.05.001>
- van Steensel, L., Paridaens, D., van Meurs, M., van Hagen, P.M., van den Bosch, W.A., Kuijpers, R.W.A.M., Drexhage, H.A., Hooijkaas, H., Dik, W.A., 2012. Orbit-Infiltrating Mast Cells, Monocytes, and Macrophages Produce PDGF Isoforms that Orchestrate Orbital Fibroblast Activation in Graves' Ophthalmopathy. *J. Clin. Endocrinol. Metab.* 97, E400–E408. <https://doi.org/10.1210/jc.2011-2697>
- Wakelkamp, I.M.M.J., Bakker, O., Baldeschi, L., Wiersinga, W.M., Prummel, M.F., 2003. TSH-R expression and cytokine profile in orbital tissue of active vs. inactive Graves' ophthalmopathy patients. *Clin. Endocrinol. (Oxf.)* 58, 280–287. <https://doi.org/10.1046/j.1365-2265.2003.01708.x>
- Wang, Y., Patel, A., Douglas, R.S., 2019. Thyroid Eye Disease: How A Novel Therapy May Change The Treatment Paradigm. *Ther. Clin. Risk Manag.* Volume 15, 1305–1318. <https://doi.org/10.2147/TCRM.S193018>
- Wiersinga, W.M., 1996. Advances in medical therapy of thyroid-associated ophthalmopathy. *Orbit* 15, 177–186. <https://doi.org/10.3109/01676839609150235>
- Xing, L., Ye, L., Zhu, W., Shen, L., Huang, F., Jiao, Q., Zhou, X., Wang, S., Wang, W., Ning, G., 2015. Smoking was associated with poor response to intravenous steroids therapy in Graves' ophthalmopathy. *Br. J. Ophthalmol.* 99, 1686–1691. <https://doi.org/10.1136/bjophthalmol-2014-306463>
- Xu, L., Li, L., Xie, C., Guan, M., Xue, Y., 2017a. Thickness of Extraocular Muscle and Orbital Fat in MRI Predicts Response to Glucocorticoid Therapy in Graves' Ophthalmopathy. *Int. J. Endocrinol.* 2017, 1–8. <https://doi.org/10.1155/2017/3196059>
- Xu, L., Li, L., Xie, C., Guan, M., Xue, Y., 2017b. Thickness of Extraocular Muscle and Orbital Fat in MRI Predicts Response to Glucocorticoid Therapy in Graves' Ophthalmopathy. *Int. J. Endocrinol.* 2017, 1–8. <https://doi.org/10.1155/2017/3196059>

- Zang, S., J. Kahaly, G., 2011a. Steroids and the Immune Response in Graves Orbitopathy. *Immunol. Endocr. Metab. Agents Med. Chem.* 11, 90–98. <https://doi.org/10.2174/187152211795495689>
- Zang, S., J. Kahaly, G., 2011b. Steroids and the Immune Response in Graves Orbitopathy. *Immunol. Endocr. Metab. Agents Med. Chem.* 11, 90–98. <https://doi.org/10.2174/187152211795495689>
- Zang, S., Ponto, K.A., Kahaly, G.J., 2011. Intravenous Glucocorticoids for Graves' Orbitopathy: Efficacy and Morbidity. *J. Clin. Endocrinol. Metab.* 96, 320–332. <https://doi.org/10.1210/jc.2010-1962>
- Zhu, W., Ye, L., Shen, L., Jiao, Q., Huang, F., Han, R., Zhang, X., Wang, S., Wang, W., Ning, G., 2014a. A Prospective, Randomized Trial of Intravenous Glucocorticoids Therapy With Different Protocols for Patients With Graves' Ophthalmopathy. *J. Clin. Endocrinol. Metab.* 99, 1999–2007. <https://doi.org/10.1210/jc.2013-3919>
- Zhu, W., Ye, L., Shen, L., Jiao, Q., Huang, F., Han, R., Zhang, X., Wang, S., Wang, W., Ning, G., 2014b. A Prospective, Randomized Trial of Intravenous Glucocorticoids Therapy With Different Protocols for Patients With Graves' Ophthalmopathy. *J. Clin. Endocrinol. Metab.* 99, 1999–2007. <https://doi.org/10.1210/jc.2013-3919>
- Zloto, O., Sagiv, O., Priel, A., Cukierman-Yaffe, T., Tirosh, A., Agmon-Levin, N., Madgar, S., Serlin, T., Ben Simon, G., 2021. Gender differences in clinical presentation and prognosis of thyroid eye disease. *Eur. J. Ophthalmol.* 31, 2717–2723. <https://doi.org/10.1177/1120672120964112>



REKOMENDASI PERSETUJUAN ETIK

Nomor : 139/UN4.6.4.5.31/ PP36/ 2022

Tanggal: 22 Maret 2022

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

No Protokol	UH21080510	No Sponsor Protokol	
Peneliti Utama	dr. Irma Fita Sampe	Sponsor	
Judul Peneliti	Korelasi Clinical Activity Score dan NOSPECS Terhadap Kaliber Otot Rektus Pada Pasien Oftalmopati Graves Setelah Pemberian Metilprednisolon Intravena		
No Versi Protokol	2	Tanggal Versi	16 Maret 2022
No Versi PSP	2	Tanggal Versi	16 Maret 2022
Tempat Penelitian	RS Dr. Wahidin Sudirohusodo Makassar		
Jenis Review	<input type="checkbox"/> Exempted <input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Fullboard Tanggal	Masa Berlaku 22 Maret 2022 sampai 22 Maret 2023	Frekuensi review lanjutan
Ketua KEPK FKUH RSUH dan RSWS	Nama Prof.Dr.dr. Suryani As'ad, M.Sc.,Sp.GK (K)	Tanda tangan	
Sekretaris KEPK FKUH RSUH dan RSWS	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 Laporan 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 protokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan

FORMULIR PERSETUJUAN

Saya yang bertanda tangan di bawah ini :

Nama :

Umur : tahun

Alamat :

Telepon/HP :

Menyatakan bersedia untuk berpartisipasi pada penelitian ini yang berjudul :

**“Korelasi Clinical Activity Score Dan Nospecs Terhadap Kaliber Otot
Rektus Pada Pasien Oftalmopati Graves Setelah Pemberian
Metilprednisolon Intravena“**

Setelah mendengar/membaca dan mengerti penjelasan yang diberikan mengenai tujuan dan manfaat yang akan didapatkan pada penelitian ini, khususnya bagi kemajuan ilmu kedokteran.

Makassar,

Saksi I

Saksi II

(.....)

(.....)

Penanggung jawab penelitian :

dr. Irma Fita Sampe
Nusa Harapan Permai Blok A 11 No 12
Telp. 085299222258

Penanggung jawab medik :

Dr. dr. Halimah Pagarra, Sp.M (K)
Jln. Bakti 2 No. 14
Telp. 08124238285

DISETUIJUI OLEH KOMISI PENELITIAN
KESEHATAN FAKULTAS
KEDOKTERAN UNHAS
TGL.....2021

No	Medical Record Number	Uppercase	Sex	Thyroid History	Treatment	Smoking/history	Uppercase	Best acuity	9.1. Pupils expressive feeding in or anisocoria	SOFT TISSUE SIGNS BEFORE TREATMENT					
										Eyes/awake		Exotropia		Conjunctival edema	
								Right/OD	Left/OS	Right/OD	Left/OS	Right/OD	Left/OS	Right/OD	Left/OS
1.	542135	23/11/1994 30 YA	male	Uppercase		Uppercase	bilateral	20/20	C	C	C	C	C	C	C
2.	506637	19/05/1962 26 YA	Female	Uppercase	Uppercase	Uppercase	OD TED	20/20	C	C	C	C	C	C	C
3.	610504	08/03/1986 34 YA	Female	Uppercase	Uppercase	Uppercase	bilateral	20/20	C	C	C	C	C	C	C
4.	527021	24/10/1988 32 YA	Female	Uppercase	Tick Uppercase	Uppercase	Unilateral	20/20	C	C	C	C	C	C	C
5.	837291	4/8/1974 44 YA	Male	Uppercase	Uppercase 20 mg	Uppercase	Bilateral	1/300	1	1	1	1	1	1	1
6.	887730	14/11/1982 34 YA	Female	Uppercase		Uppercase	bilateral	1/300-20/30	1	1	1	1	1	1	1
7.	921020	05/02/1977 42 YA	Female	Uppercase		Uppercase	Bilateral	20/60	1	1	1	1	1	1	1
8.	943421	04/03/1963 37 YA	male	Uppercase	Uppercase 10mg daily	Uppercase	Bilateral	20/20-20/20	C	C	C	C	C	C	C
9.	879583	02/07/1953 37 YA	Female	Uppercase		Uppercase	Bilateral	20/30	C	C	C	C	C	C	C
10.	924322	10/11/1974 41 YA	male	Uppercase	Uppercase 5 mg	Uppercase	Bilateral	20/20	C	C	C	C	C	C	C
11.	864338	06/07/1974 41 YA	male	Uppercase		Uppercase	Bilateral	20/20	C	C	C	C	C	C	C
12.	946027	17/12/1953 37 YA	Female	Uppercase		Uppercase	Bilateral	20/30	C	C	C	C	C	C	C
13.	854935	16/12/1955 35 YA	Female	Uppercase		Uppercase	Bilateral	20/60	C	C	C	C	C	C	C
14.	883056	05/10/1952 27 YA	Female	Uppercase	Uppercase 5 mg	Uppercase	bilateral		C	C	C	C	C	C	C
15.	410016	21/11/1954 30 YA	Female	Uppercase		Uppercase	Bilateral	20/20	C	C	C	C	C	C	C
16.	932360	02/07/1974 50th	male	Uppercase		Uppercase	Bilateral	20/25	C	C	C	C	C	C	C
17.	365666	10/03/1957 33 YA	Female	Uppercase		Uppercase	Bilateral	20/20	C	C	C	C	C	C	C
18.	761629	31/12/1951 55 YA	Female	Uppercase		Uppercase	Bilateral	20/60	C	C	C	C	C	C	C
19.	942056	28/11/1957 23 YA	Female	Uppercase		Uppercase	Bilateral	20/20	C	C	C	C	C	C	C
20.	853760	01/08/1974 41 YA	male	Uppercase		Uppercase	Bilateral	1/300-20/30	C	C	C	C	C	C	C
21.	882387	30/10/93	28th Female	Uppercase		Uppercase	Bilateral	20/25	C	C	C	C	C	C	C

No	Medical Record Number	NOSPECS BEFORE TREATMENT																STATUS SEVERITAS		
		RETRAKSI		SOFT TISSUE INVOLVEMENT				EXOPHTHALMUS			DIPLOPIA			NEUROPATI		CORNEAL BREAKDOWN				
		Tidak ada	<2 mm	>=2 mm	Tidak ada	Ringan	Selang-Berat	Tidak ada	<3 mm	>=3 mm	Tidak ada	Intermitten	Inkonstan	Konstan	Tidak Ada	Ada	Tidak ada		Ringan	Selang-Berat
1.	942135 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	Moderate
2.	926637 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	Moderate
3.	610604 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	Moderate
4.	927021 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	Moderate
5.	832759 k	x	v	v	v	v	x	x	x	x	x	x	x	x	x	x	x	x	x	Severe
6.	889780 k	x	v	v	v	v	x	x	x	x	x	x	x	x	x	x	x	x	x	severe
7.	9271020 k	x	v	v	v	v	x	x	x	x	x	x	x	x	x	x	x	x	x	Severe - sight retraining
8.	949421 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	Severe - sight retraining
9.	878982 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	moderate
10.	924222 k	x	v	v	v	v	x	x	x	x	x	x	x	x	x	x	x	x	x	moderate
11.	884308 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	moderate
12.	948027 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	moderate
13.	854935 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	moderate
14.	883039 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	moderate
15.	410016 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	moderate
16.	832390 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	moderate
17.	385956 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	moderate
18.	761629 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	moderate
19.	942256 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	moderate
20.	893780 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	Severe - sight retraining
21.	882397 k	v	x	x	x	x	v	x	x	x	x	x	x	x	x	x	x	x	x	moderate

No	Medical Record Number	Rectus Caliber Before Treatment							
		OCULUS DEKSTRA				OCULUS SINISTRA			
		Medial	inferior	Lateral	Superior	Medial	inferior	Lateral	Superior
1.	942135	3.0 mm	6 mm	2,8 mm	6,8 mm	2,6 mm	6,2 mm	3,3 mm	6,9 mm
2.	926637	8,1 mm	6 mm	3,0 mm	6,2 mm	4,4 mm	9,1 mm	6,3 mm	10,2 mm
3.	610604	3,0 mm	7mm	3,0 mm	8 mm	3,7 mm	3,5 mm	2,6 mm	8 mm
4.	927021	3,1 mm	3,8 mm	2,3 mm	2,3 mm	2,9 mm	4,1 mm	2,7 mm	2,5 mm
5.	832759	3.30 mm	11 mm	2,3 mm	11 mm	3.10 mm	3,5 mm	2,5 mm	3,90 mm
6.	889730	5,4 mm	4,5 mm	3,9 mm	3,5 mm	4,5 mm	3,9 mm	3,7 mm	3,7 mm
7.	921020	8,7 mm	8,1 mm	9,2 mm	8,5 mm	9 mm	6,7 mm	8,1 mm	8,2 mm
8.	943421	1,2 mm	3,8 mm	1,8 mm	4,4 mm	1,9 mm	11,0 mm	1,4 mm	3,4 mm
9.	879882	3,2 mm	2,7 mm	2,7 mm	2,6 mm	2,7 mm	4,3 mm	2,9mm	3,9 mm
10.	924322	2,8 mm	4,3 mm	2,2 mm	6,4 mm	2,5 mm	4,9 mm	2,5 mm	5,8 mm
11.	884308	3,2 mm	5,6 mm	1,2 mm	3,6 mm	4,3mm	3,3 mm	3,8 mm	4,1 mm
12.	948027	3,4 mm	3,7 mm	3,5 mm	3,8 mm	3,2 mm	3,7 mm	3,5 mm	3,8 mm
13.	854935	5,3 mm	8 mm	3,5 mm	4,8 mm	4,8 mm	6,7 mm	5,6 mm	5,2 mm
14.	883099	4,2 mm	5,3 mm	2,4 mm	2,8 mm	3,5 mm	4,0 mm	2,9 mm	2,9 mm
15.	410016	7,6 mm	5,6 mm	1,2 mm	3,8 mm	4,3mm	3,3 mm	3,8 mm	4,1 mm
16.	932390	4,7 mm	4mm	4,3 mm	4,8 mm	4,7 mm	7,4 mm	3,7 mm	4,8 mm
17.	385966	6,7 mm	6,2 mm	4,2 mm	5,3 mm	4,4 mm	3,2 mm	4,4 mm	6,1 mm
18.	761629	3,4 mm	3,4 mm	3,7 mm	3,7 mm	3,2 mm	3,5 mm	3,8 mm	3,4 mm
19.	942296	3,2 mm	3,2 mm	2,6 mm	4,4 mm	3,2 mm	3,2 mm	2,8 mm	4,9 mm
20.	893780	8 mm	10 mm	10.3 mm	11 mm	4,4 mm	9,1 mm	6,3 mm	10,2 mm
21.	882387	4,5 mm	4 mm	3,0 mm	3,3 mm	4,0 mm	6,1 mm	4,4 mm	5,1 mm

No	Medical Record Number	Rectus Caliber After Treatment							
		OCULUS DEKSTRA				OCULUS SINISTRA			
		Medial	inferior	Lateral	Superior	Medial	inferior	Lateral	Superior
1.	942135	3,7 mm	4,1 mm	3,2 mm	3,9 mm	3,3 mm	4,8 mm	3,4 mm	4,8 mm
2.	926637	3,5 mm	3,5 mm	3,00 mm	6,0 mm	3,20 mm	3,20 mm	2,6 mm	5,3 mm
3.	610604	3,70 mm	4,50 mm	3,2 mm	6,0 mm	2,6 mm	4,0 mm	3,0 mm	5,30 mm
4.	927021	3,1 mm	3,8 mm	2,3 mm	2,3 mm	2,9 mm	4 mm	2,7 mm	2,5 mm
5.	832759	3,30 mm	3,6 mm	2,3 mm	3,3 mm	2,8 mm	3,5 mm	2,5 mm	3,3 mm
6.	889730	4,0 mm	3,8 mm	2,8 mm	3,5 mm	3,2 mm	3,8 mm	3,0 mm	3,9 mm
7.	921020	8,2 mm	9,5 mm	7,0 mm	8,5 mm	7,0 mm	3,5 mm	7,4 mm	9,0 mm
8.	943421	1,2 mm	3,5 mm	1,8 mm	4,4 mm	1,9 mm	4,0 mm	1,4 mm	3,0 mm
9.	879882	2 mm	2,2 mm	2,7 mm	2,6 mm	2,7 mm	4 mm	2,9 mm	3,9 mm
10.	924322	2,8 mm	4,3 mm	2,2 mm	6,4 mm	2,5 mm	4,9 mm	2,5 mm	5,8 mm
11.	884308	2,1 mm	4,0 mm	1,2 mm	3,8 mm	3,0 mm	1,2 mm	3,8 mm	4,1 mm
12.	948027	3,0 mm	3,3 mm	3,5 mm	3,8 mm	3,1 mm	2,8 mm	3,5 mm	3,8 mm
13.	854935	3,5 mm	3,5 mm	2,9 mm	4,6 mm	2,8 mm	3,0 mm	2,60 mm	2,8 cm
14.	883099	3,3 mm	3,7 mm	2,4 mm	2,7 mm	3,1 mm	4,0 mm	2,9 mm	2,9 mm
15.	410016	2,1 mm	4,0 mm	1,2 mm	3,8 mm	1,7 mm	1,2 mm	3,8 mm	4,1 mm
16.	932390	4 mm	3,8mm	4,3 mm	4,5 mm	4,7 mm	3,2 mm	3,7 mm	4,0 mm
17.	385966	3,8 mm	4,6 mm	3,2 mm	5 mm	3,2 mm	3,6 mm	3,7 mm	5 mm
18.	761629	3,5 mm	6,7 mm	3,7 mm	5,4 mm	4,1 mm	5,6 mm	3,2 mm	5,6 mm
19.	942296	3,2 mm	3,6 mm	2,6 mm	4,7 mm	3,6 mm	4,1 mm	2,7 mm	3,6 mm
20.	893780	3,8 mm	4,6 mm	3,2 mm	5 mm	3,2 mm	3,6 mm	2,7 mm	5 mm
21.	882387	4,0 mm	4 mm	2,6 mm	3,2 mm	3,5 mm	4,8 mm	3,4 mm	6,1 mm

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1. Riwayat Pendidikan:

NO.	STRATA	INSTITUSI	TEMPAT	TAHUN LULUS
1.	SD	SD Katolik Renya Rosari Makale	Tana Toraja	1996
2.	SLTP	SLTP Negeri 1 Makale	Tana Toraja	1999
3.	SMU	SMAN 1 Makale	Makassar	2002
4.	S1	FK Universitas Hasanuddin	Makassar	2009
5.	PPDS	Bagian Ilmu Kesehatan Mata FK UNHAS	Makassar	Sementara Pendidikan

2. Riwayat Pelatihan

NO.	PELATIHAN	INSTITUSI	TEMPAT	TAHUN

3. Riwayat pekerjaan

NO.	INSTANSI	TEMPAT	KEDUDUKAN	PERIODE
1.	RSUD Kab Malinau	Malinau, Kalimantan Utara	Dokter Umum	2009 - sekarang

