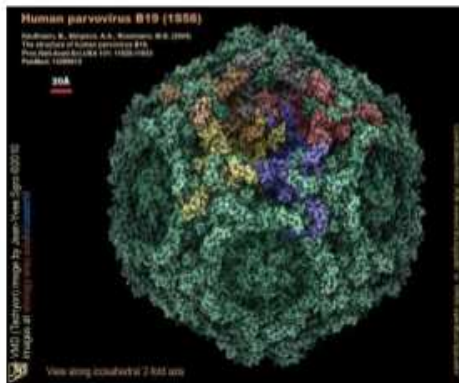
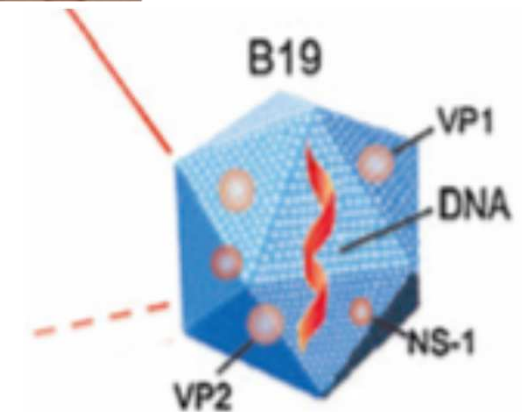


# Aktuelles zu Infektionen in der Schwangerschaft

## Parvo B19 Infektion



Otilia Geist  
Abteilung für Pränatalmedizin  
Klinikum Leverkusen



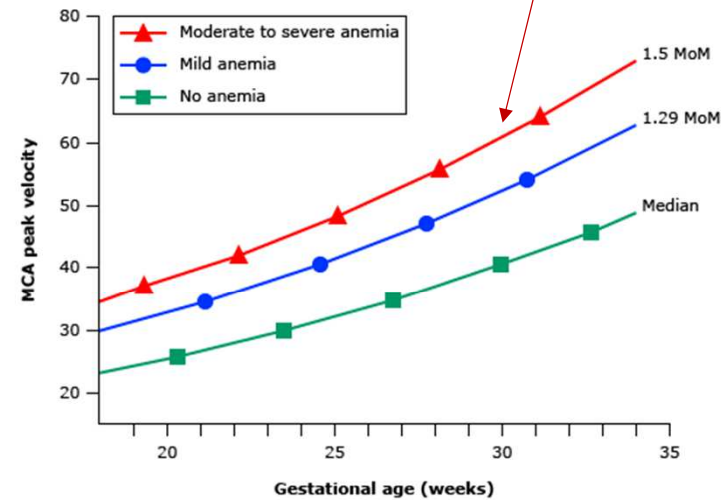
# Doppler und Anämiediagnostik Mari 2000 NEJM

## a. cerebri media – Vmax syst.

- „anämiegefährdete“ Feten (n=111)
- „normale“ Feten (n=265)
- **100% Sensitivität für moderate oder schwere Anämie (Hb 5,8-7,8 g/dl)**
- 12% falsch positive

transfusionsbedürftig

MCA peak velocity

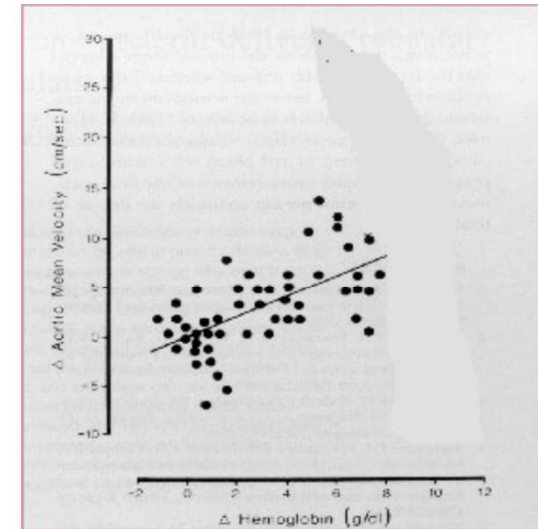


MCA: middle cerebral artery; MoMs: multiples of the median.

Data from: Mari G, for the Collaborative Group for Doppler Assessment of the Blood Velocity in Anemic Fetuses. Noninvasive diagnosis by Doppler ultrasonography of fetal anemia due to maternal red-cell alloimmunization. *N Engl J Med* 2000; 342:9.

UpToDate®

fetale Aorta, Nicolaidis 1990 AmJOC



## Signifikante Korrelation zwischen Geschwindigkeit und Hb-Defizit

Der Median der Spitzenflussgeschwindigkeit bewegt sich zwischen 19,3 cm/s in der 14.SSW und 64,4 cm/s in der 40. SSW



# perinatology.com

## Expected Peak Velocity of Systolic Blood Flow in the MCA as a Function of Gestational Age

[Search](#)

[Translate](#)

The middle cerebral artery is examined close to its origin in the internal carotid artery. The angle of the ultrasound beam and the direction of blood flow should be zero degrees. The risk of anemia is highest in fetuses with a pre-transfusion peak systolic velocity of 1.5 times the median or higher.

**ENTER:**

Gestational age (weeks)

Observed MCA Peak Systolic Velocity (cm/sec)

**Calculations:**

The Median Peak Systolic Velocity for this age is

Your measurement is  Multiples of Median

**REFERENCES:**

1. Mari G. Noninvasive diagnosis by Doppler ultrasonography of fetal anemia due to maternal red-cell alloimmunization. *N Engl J Med* 2000; 342:9-14. [Obstet. 1998; 63:196-202. MEDLINE](#)
2. Delle Chiaie L, et al., Prediction of fetal anemia with Doppler measurement of the middle cerebral artery

**TABLE 3. EXPECTED PEAK VELOCITY OF SYSTOLIC BLOOD FLOW IN THE MIDDLE CEREBRAL ARTERY AS A FUNCTION OF GESTATIONAL AGE.**

WEEK OF GESTATION	MULTIPLES OF THE MEDIAN		
	1.00 (MEDIAN)	1.29	1.50 1.55
18	23.2	29.9	34.8 36.0
20	25.5	32.8	38.2 39.5
22	27.9	36.0	41.9 43.3
24	30.7	39.5	46.0 47.5
26	33.6	43.3	50.4 52.1
28	36.9	47.6	55.4 57.2
30	40.5	52.2	60.7 62.8
32	44.4	57.3	66.6 68.9
34	48.7	62.9	73.1 75.6
36	53.5	69.0	80.2 82.9
38	58.7	75.7	88.0 91.0
40	64.4	83.0	96.6 99.8

**Summary of studies on pregnancy outcome and parvovirus B19 infection**

Study	Number of pregnancies	Total fetal losses	Loss <20 weeks	Loss >20 weeks	Hydrops
Anand, A, et al. N Engl J Med 1987	6	2	-	-	-
Schwartz, TF, et al. Lancet 1988	34	7	-	7	10
Rodis, JF, et al. Am J Obstet Gynecol 1990*	39	2	2	0	0
British Working Party, BMJ 1990*	186	30	27	3	1
Guidozzi, F, et al. J Reprod Med 1994*	63	1	1	0	0
Gratacos, E, et al. J Infect Dis 1995*	60	5	5	0	0
Enders, M, et al Prenat Diagn 2004	1018	64	64	0	40

\* Loss rate <20 weeks 10 percent, >20 weeks 0.9 percent.

Risiko für Hydrops < 13 SSW 1,9%, 13.-20. SSW 8% >20.SSW 2,3%  
 Abort 12,3%. 8,7% 0. %  
 M. Enders 2010

Fetale Komplikationen - 50% ersten 4 Wochen, 80% ersten 8 Wochen, 95% ersten 12 Wochen  
 M. Enders 2008